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THE AGRICULTURAL OUTLOOK FOR 1928

Prepared by the Staff of the Bureau of Agricultural Economics

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PURPOSE OF THE OUTLOOK REPORT

This report presents a summary of the best available facts bearing upon conditions which farmers will probably face when products of the coming season's operations are ready for market. All available information regarding each farm product has been carefully studied from the national point of view and the suggestions which follow are based on the most logical conclusions from these facts.

These statements are designed to help farmers to make sound plans for the year's operations prior to planting and breeding time. The report is also designed to be used by workers in the agricultural colleges, experiment station and extension services in preparing outlook reports for particular States and regions. An attempt has been made to bring together facts on world-wide and nation-wide conditions which may not be readily available within a State. These statements necessarily represent the national point of view and, in many instances, must be modified to meet local conditions.

It is recognized that adjustments by farmers of acreage or of breeding plans can not alone assure satisfactory outcome for the season. Every effort must be made at the same time to produce efficiently the qualities of products that are demanded by consumers. By using outlook information farmers may avoid the losses which come from extreme variations in acreage, either in the form of increases or decreases. They may also plan their operations with a view to foreign competition and demand, which are summarized in the following statement.

In the preparation of this, the Sixth Annual Agricultural Outlook Report, all of the facilities and the entire staff of the Bureau of Agricultural Economics have been drawn upon. Assistance was rendered by representatives of other bureaus of the department and by representatives of the agricultural colleges, experiment stations, or extension forces of 21 States who participated in the conference in Washington at the time the report was prepared.

State and regional outlook reports are being prepared this year by 21 or more States to interpret the facts of the Federal report in terms of the needs of the farmers of these respective States. Any farmer who receives a copy of the Federal report is urged to secure a copy of the report distributed by his State extension service and consider its recommendations in connection with the following.

SUMMARY OF THE OUTLOOK

Some improvement in agriculture is expected for 1928 if farmers avoid expansion of production and continue their efforts to balance production with demand. A summary of the recommendations on leading crops and livestock follows:

DOMESTIC DEMAND

The agricultural industry as a whole may anticipate a domestic market situation for the 1928 production at least equal to that of the present winter, with the possibility of some improvement.

FOREIGN COMPETITION AND DEMAND

Foreign demand for the agricultural products of 1928 probably will be no better than it was for those of 1927. The purchasing power of foreign consumers seems likely to be no greater than during the present season and foreign competition is likely to be greater.

AGRICULTURAL CREDIT

The agricultural credit situation in most sections of the country is somewhat improved over that of a year ago. The credit supply in financial centers continues abundant and rates on commercial loans and investments have shown further decline.

FARM LABOR AND EQUIPMENT

Farm labor will probably be available in a slightly larger supply at least during the first half of 1928. Farm wages and the prices of farm machinery are not likely to change and building materials when purchased in quantities probably will be lower than last year.

COTTON

When American cotton growers begin to market the 1928 crop, it is probable that they will meet the relatively favorable condition of a smaller carry-over than last year, and a demand situation about the same as for the 1927 crop. The danger of damage from boll weevil still exists in spite of the extremely low temperatures in January and still looms as a material factor in determining yield per acre. Cotton growers have in their own control the determination of acreage and to the extent to which they increase their acreage over that planted in 1927 they will tend to reduce the total return from the 1928 crop.

WHEAT

The world wheat crop will probably again be large if average or better than average yields are secured. Unless there is heavy winter killing in hard winter wheat areas any material increase in the acreage of hard red spring wheat in the United States will further tend to increase the world supply for market next fall and winter, and probably reduce returns to growers as compared to 1926 or 1927. The outlook for durum wheat is quite uncertain, but increased competition is in prospect.

RYE

Although the present prospects are for some increase in the world's rye acreage next year, as all countries reporting to date show some increase in acreage seeded for harvest in 1928, the present situation is not likely to be materially changed in 1928 unless high yields are realized in Europe.

FLAX

Flax acreage can be expanded profitably to replace other spring grains grown in the same area.

RICE

Rice acreage though reduced last year, produced a large crop and further reduction in acreage seems advisable.

OATS

Oats are likely to meet a less favorable market in the next crop year since present prices are largely due to below-average yields for two years.

BARLEY

Barley is unlikely to bring as high prices in 1928 as in 1927 when there was a shortage of feed grains in Europe.

CORN

Corn acreage for the entire country in 1928 will probably show little change from last year if normal weather prevails at planting time. With average yields a 1928 crop about equal to 1927 may be expected and with a more normal geographic distribution of the crop prices are more likely to approach the average for the 1926 crop than those which have prevailed to date for the 1927 crop.

BEEF CATTLE

Beef cattle for slaughter and as stockers and feeders seem reasonably certain to meet a market in 1928 that will average higher than in 1927, although the peak prices of that year may not be equalled. Market supplies of cattle in 1928 will probably be 6 to 10 per cent smaller than in 1927.

HOGS

Hog prices seem likely to show some strengthening, but no very material change beyond the usual seasonal fluctuations until next fall and winter, when market supplies will probably be affected by the curtailed production resulting from the present unsatisfactory price situation. Some improvement in domestic demand for pork is anticipated, but export demand during the greater part of 1928 promises to be even lower than in 1927.

DAIRY PRODUCTS

The dairy industry appears to be in fully as strong a position as a year ago, with indications of only moderate expansion in production. Domestic demand is likely to be maintained during the coming year, and consumption is likely to continue to increase faster than production, so that the increasing foreign supplies will be further drawn upon to supplement domestic production. This seems a very desirable time for saving the better dairy calves so as to permit culling the herds closely before a material decline from the present high slaughter value of the old cows occurs.

SHEEP AND WOOL

With wool stocks in this country light, and with a strong foreign market, the outlook for wool growers appears favorable. Sheep numbers continue to increase, and prospects indicate a lamb crop for 1928 somewhat larger than a year ago. Demand for lamb is not likely to improve sufficiently to offset the prospective increase in production.

MOHAIR

Mohair producers have an immediate outlook much better than last year, but looking further ahead they should be careful not to expand production more rapidly than domestic requirements.

HORSES AND MULES

Numbers of horse and mule colts indicate further decreases in work animals for several years to come. Eventually, this reduction will reach a point where scarcity will cause prices to rise to higher levels. Increased breeding of work animals is advisable as a side line in areas of cheap pasture, east of the Rocky Mountains.

POULTRY AND EGGS

Poultry producers have favorable prospects of a higher level prices for both dressed and live poultry at least during the first half of the year because of lighter supplies in storage and prospective favorable demand. The low storage holdings of eggs and the favorable outcome of the 1927 storage season with the number of layers practically unchanged should result in higher egg prices during the coming year.

FEED GRAINS AND LIVESTOCK

Present acreages of feed crops and hay exceed the needs of present aggregate livestock numbers. Adjustment of this unbalanced situation should be in the direction of fewer acres of feed crops rather than more livestock.

HAY AND PASTURE

The continued decrease in the number of hay consuming animals, coupled with the unusually large carry over in sight from the large 1927 crop, indicates that, even should the 1928 crop be below average, supplies of hay in 1928-29 will probably exceed normal livestock requirements.

FEEDS

About the same quantity of feed grains is available for the rest of the season as a year ago; stocks of legume and other hays are unusually large, but there is a slightly smaller supply of by-product feeds. Prices of by-product feeds and feed grains therefore probably will continue higher than a year ago but hay prices much lower.

POTATOES

Potato growers in all the Northeastern and North Central States appear to be planning substantial increases in their acreages. If these intentions are carried out and western growers do not decrease their acreages more than they now plan there is little probability of returns from potatoes equal to those secured during the last three years.

SWEET POTATOES

Overproduction of sweet potatoes occurred in 1927 because of continued heavy planting in the eastern commercial region accompanied by a widespread shift from cotton to sweet potatoes in the South. A substantial reduction in acreage is needed and such a readjustment may be expected to result from the much lower price received for the 1927 sweet potato crop and from the higher prices of alternative crops.

CABBAGE

Cabbage acreage should be moderately reduced to restore the price to a better level. There is no justification for continuing the present upward trend in acreage.

ONIONS

Onion acreage in late or main-crop States, if reduced 10 per cent below the 1927 acreage, would, with average yields, result in a crop about the same size as that produced in 1925 and would likely restore the more favorable price level of that season. In the intermediate shipping States growers would hardly be justified in increasing their acreage above that planted in 1927.

BEANS

The bean crop of 1927 is apparently fully equal to domestic demands and the same acreage with an average yield would give a larger crop. An increased acreage would probably result in further reduction in prices.

FRUITS

Fruit production has reached a point where it is difficult to market these crops at satisfactory prices in years when weather conditions are favorable for good yields. In view of the very heavy losses experienced when an excessive acreage of fruit trees is planted it is hoped that future plantings will be influenced more by the long time prospects for the fruits in question and less by temporary conditions.

CITRUS FRUITS

The citrus fruit outlook indicates as did those of 1926 and 1927 a future prospect for a marked increase in the bearing acreage of grapefruit and oranges and a very large increase in their production in years when favorable growing weather prevails. In general the outlook is unfavorable for additional plantings.

APPLES

Apple production by commercial orchards for the country as a whole will continue to gradually increase during the next 5 or 10 years. There is nothing in the apple outlook to unduly discourage commercial growers who are favorably located and who produce high quality fruit at a low cost.

PEACHES

Peach growers under normal weather conditions may expect heavy production and difficult marketing conditions during the next few years. The potential bearing capacity of orchards in the southern area is so great that a considerable reduction in number of the older unprofitable trees would result in a higher farm value for the crop.

GRAPES

Grape production is likely to continue heavy for several years. Early relief for recent unsatisfactory marketing conditions is likely to be accomplished in California only by an immediate appreciable reduction in acreage. In eastern and mid-western areas increases in acreages do not seem justified.

STRAWBERRIES

Strawberry growers face a market outlook slightly less favorable than that of a year ago. With average yields, the crop this year will be one of the largest on record.

CANTALOUPES

Cantaloupe acreage needs to be sharply reduced in the Imperial Valley of California and other early areas if last year's disastrously low prices are to be avoided. Maintenance of 1927 acreage in intermediate shipping States and slight decreases in late shipping States seems advisable.

WATERMELONS

Watermelon prices during the past few years indicate that the acreage planted last year in early producing States should be slightly reduced and that in late States only slight increases appear advisable.

PEANUTS

Peanut growers in the Virginia-North Carolina section should not allow present prices to cause them to overplant Virginia type nuts. A maintenance this year of the 1927 acreage of Spanish and Runner types of peanuts in the South can be expected to result in prices reasonably satisfactory to the grower.

CLOVER AND ALFALFA SEED

The outlook for profitable marketing of alfalfa seed from the Northern and Northwestern States and of red clover seed should continue relatively favorable. For alfalfa seed from the Southwestern States and for sweet clover seed the outlook is not promising for growers.

TOBACCO

The dominating influences in the general tobacco situation are the steady increases in consumption of cigarettes at home and abroad, heavy production and increasing stocks of flue cured types, and decreased stocks in most other types of tobacco. The outlook for flue cured if acreage is increased is decidedly unfavorable. For Burley, One Sucker, Maryland and most cigar types the outlook is favorable if excessive acreages are avoided. The outlook for dark fired types does not justify material changes in acreage.

SUGAR

Present prospects for sugar point to a continuation of large world production with prices at approximately the present level through another season. Where present prices are profitable acreage may be maintained or increased.

THE AGRICULTURAL OUTLOOK FOR 1928**GENERAL AGRICULTURAL SITUATION**

In 1927 there was a better balance between the different lines of agricultural production than there has been in any other recent year. A marked exception was the continued high production of feed crops in relation to livestock numbers. Agricultural income in 1928 for the country as a whole is likely to show some improvement over that of 1927 provided total agricultural production is maintained at its present volume and farmers continue to make further adjustments toward a more balanced production. Expansion, especially in cash crops, is to be guarded against.

During the last two years the economic position of agriculture as a whole has remained not far below that attained in 1925-26. Gross agricultural income advanced from 9.2 billion dollars in 1921-22 to 12.7 in 1925-26, declined somewhat in 1926-27 to 12.1, and may be slightly higher by the end of the 1927-28 season. The gross income from agricultural production appears to have become stabilized during the last three years at 12 to 13 billion dollars, with marked annual increases in the income from some products offset by corresponding decreases from others.

Prices of farm products advanced during 1927, as shown by the increase of 10 points in the index of farm prices from 127 for December, 1926, to 137 for December, 1927. This was due largely to higher prices for cotton, cattle, feed grains, apples, and tobacco, which more than offset the marked decline in hog prices and lower prices for wheat, hay, potatoes, and eggs. The net advance in farm prices is the result not of any better demand situation, but rather of reduced production of cotton, cattle, fruits, and vegetables. The total agricultural production for the calendar year 1927 appears now to have been approximately 5 per cent below that of 1926.

The production of cotton, after a marked rise from 1921 to 1926, in 1927 was reduced to the volume of 1920. The production of grains for food and for sale, which has been following a downward trend during the last eight years, increased slightly in 1927. The production of dairy and poultry products appears to have been maintained at the 1926 level after having increased substantially for several years. The production of all meat animals also equaled that of 1926. It is significant of the underlying changes that are taking place in farm production that during the last six years the production of crops for food and for sale has been maintained at a fairly constant level, whereas in the marketings of livestock and particularly livestock products the trend has been upward.

Better incomes have been received during the last half of 1927 in the Northwest from grains and in the South from cotton, than during the same period a year ago, but these were in part offset by lower incomes in the major hog producing areas. Dairy producers appear to have had as good an income during the last six months as during the same period a year earlier, but poultry producers have not fared as well.

In the costs of goods and services used for the farm production of 1927 there were no marked changes. Farm wages were slightly lower in 1927 than in 1926. Somewhat less labor was hired in the South because of the smaller cotton crop, and more was hired in the Central and Northwestern States to harvest and market the larger grain crops. Retail prices of farm machinery were only slightly higher, but purchases of farm equipment during 1927 exceeded those of 1926. Fertilizer prices were somewhat lower, while feed prices increased considerably and building material prices averaged slightly higher than in 1926. On the whole, prices of commodities and services bought for production have remained relatively constant during the last five years, with commodities approximately at a level of 50 per cent above pre-war prices and farm wages 66 per cent higher.

With gross income and production costs relatively unchanged this season as compared with last, it is evident that the agricultural situation as a whole, when measured in terms of returns for capital and labor, remains about as a year ago, and somewhat below that of 1925-26. That the marked improvement up to 1925-26 has not been continued into 1926-27, and that agricultural earnings are still considered inadequate by farmers and others, are reflected in the decline in land values and the movement of farm population to cities, which continued at least well into 1927. In the spring of 1927 land values for the country as a whole averaged 19 per cent above the pre-war values. Since then they have probably not changed materially. The movement of farm population to cities appears to have reached unusually large proportions in 1926, but the movement may not have been as great in 1927 as in 1926 for the inducements in urban industries have not been quite as attractive as during the preceding two years, and farm returns have been better in certain areas.

Taking into account the trend of agricultural production in this country, foreign competition and demand, and the trend in the general commodity price level, forces are not yet in evidence that would make the situation as a whole, during the next few years, materially different from the situation of the last three years. However, forward-looking farmers can continue to improve their situation by adopting more efficient methods and making adjustments in line with the information contained in this report.

DOMESTIC DEMAND

The domestic demand for the 1927 farm production which is still to be marketed during the first half of 1928 is likely to show a seasonal improvement, but is not likely to attain the level of demand that prevailed during the first half of 1927. For the production of 1928 the agricultural industry as a whole should anticipate a domestic market situation at least equal to that of the current winter, although there are some uncertain factors which indicate the possibility of a somewhat better situation.

The money incomes of urban consumers are now lower than they were a year ago, because of the lower level of the manufacturing activity, chiefly in the iron, steel and automobile industries, and in the building industry, with a lower volume of employment in both. Factory wage payments during December were about 6 per cent below those of the preceding December and building wage payments were about 12 per cent below, as is indicated by the reduction in employment. This reduced consumer-purchasing power appears to have affected the domestic demand for hogs, lambs, butter, and eggs during the closing months of 1927. Subsequent changes in business conditions might therefore be expected to be particularly reflected in the prices of these commodities.

At the present time there are evidences of increases in automobile, iron, and steel production which may tend to stimulate a seasonal advance in other industries as well, but with factory wage earnings now about 10 per cent below those of last March, more than the usual seasonal advance of about 6 per cent in factory wage earnings would need to take place during the next few months to restore wage earnings to the level of last spring. Such an advance does not now seem likely, but a moderate advance during the next few months from the present low level may be expected. In the building industry, also, there is usually a seasonal advance in activity beginning in March, but as the building permits and contracts awarded during December were both well below those of a year ago and as there is a weakening rental situation in many localities, it is unlikely that the seasonal advance in this industry will restore

the activity and wage payments of the early months of 1927. In the agricultural areas, better incomes than a year ago have been received, so far this season, in the Northwest and the South, from grains and cotton respectively, but these were in part offset by lower incomes in the Central States caused chiefly by lower hog prices. Although these industrial and agricultural factors are favorable for a seasonal increase in business activity and in consumers' buying power, it does not now seem probable that the money incomes of consumers during the next few months will equal those of the spring of 1927.

In gauging the domestic demand situation for the second half of this year, it is necessary to take into account the following factors: Following the rise which began in 1924, industrial activity began to slow down in 1926 and declined considerably during 1927. In the past, such periods of declining business activity have brought about forces which tended to produce a revival in industrial activity. Should such be the case this year, the second half would show better general business conditions than the first half, with probably a favorable reaction in those farm products which were unfavorably affected during the winter months of 1927. One of the factors which suggests this business improvement as a reasonable expectation is that commercial interest rates are low and do not appear likely, in view of the adequate supply of credit, to rise sufficiently to act as a brake on business activity. Another factor is that the decline in some important industrial commodity prices has apparently been checked in recent months, suggesting that business activity may improve in anticipation of further advances.

On the other hand, the recent downward trend in business activity might be resumed by the middle of 1928 (after the expected spring rise), if a continued decline in building industries should more than offset the anticipated recovery in the automobile and allied industries and if the readjustments in foreign finance, in connection with the coming reparation payments, should affect adversely European demand for our manufactured products. Another factor in the probable business situation during the second half of the year is the prospective income from the 1928 farm production. There are no evidences at present that the contribution of agriculture as a whole to the national buying power will be materially different from that of the present season.

With the prospects for agricultural income not materially different and with industrial activity probably on the upward side of the business cycle during the latter half of 1928, it appears that agriculture may reasonably anticipate a domestic demand for the 1928 production at least equal to that of the present winter, but, as is suggested by the experience of recent years, farmers should guard against expanding production to such a point that the consequences of increased supplies would more than offset any probable improvement in domestic demand.

FOREIGN COMPETITION AND DEMAND

Foreign demand for our agricultural products of 1928 probably will be no better than it was for those of 1927. In general the purchasing power of foreign consumers of our agricultural products seems likely to be no greater through the season of marketing the products of 1928 than during the present season. Industrial conditions in Great Britain, our leading market, continue unsatisfactory, and although this may not affect materially the imports of our staple products such as wheat it may weaken the demand of that market for fruits. The economic outlook in continental Europe is for a year comparing favorably with 1927. The possible recession in German business may be offset by improvements in Italy and France as well as in some of the smaller European markets. Prospects in the Orient are less favorable.

Foreign competition in many lines is likely to be as great or greater in 1928 than in 1927. The upward trend in world wheat acreage outside of Russia and China continues, and with an average or better-than-average growing season, competition promises to be greater than in the present marketing season. Competition of Russian wheat on international markets on the basis of present prospects promises again to be of little consequence. Larger competitive supplies of European cured pork during the most of 1928 will affect American pork exports adversely. But the beginning of a downward movement in European hog marketings is in prospect toward the close of 1928, which should result in an improved demand for our cured pork products. Increasing production of Burley and flue-cured tobacco in Canada and of cigarette

tobacco in the British African colonies are important as indicating potential competition for American cigarette types in foreign markets. A tendency toward increasing production of dark tobacco in Europe, which competes with American dark-fired tobacco in European markets, is to be noted.

Foreign dairy production has surpassed pre-war levels, and the importation of butter into the United States has become a regular occurrence during the winter season when Southern Hemisphere production is at its peak. Dairy production in foreign countries, however, has not shown any material increase during the last two years. There is a tendency for the number of sheep and for wool production to increase in foreign countries, but drought in Australia has checked the increase there and has resulted in a temporary reduction in world supplies of wool.

Foreign production of flaxseed shows a tendency to increase. Higher flax prices in Argentina at present favor a further increase in acreage in 1928 in that important producing country. Sugar production in foreign countries is likely to continue in large volume. Rice production in 1927-28 in the surplus-producing countries of the Far East, which compete with our Southern States in European and Latin American Markets, seems likely to be as large as, if not larger than, in 1926-27. Production of rice in Japan was much larger in 1927 than in 1926, which will restrict the market in that country for California rice.

The 1927 crop of peanuts in China seems to have been about the same in quantity as in 1926, but the superior quality makes the peanuts more suitable for export to the United States. Shipments of Chinese eggs to the American market during the coming season will depend largely upon prices prevailing in the United States as compared with those in Europe. The 1927 Chinese pack of frozen and dried egg products was much better than had been anticipated early in the season, and it seems likely that production can be maintained in spite of the difficult conditions surrounding the industry.

In the United Kingdom conditions affecting the demand for our agricultural products are likely to be no better than they were during the last year. The basic industries of coal and iron and steel fail to show the extent of improvement anticipated at the end of the coal stoppage in 1926, and prospects are not bright for 1928. Production costs continue high, and it would seem that reorganization and consolidation in many industries must precede any marked improvement. The continued high unemployment is a further unfavorable factor. There has been some improvement in automobile manufacturing, in artificial silk manufacturing, and in shipbuilding industries, but this increase is not sufficient to offset the slump in other industrial lines.

The American section of the British cotton industry continues in a depressed state with no prospects of material improvement during the coming year. Production costs have been too high to permit successful competition in the foreign markets, upon which the industry is largely dependent. The expansion of the cotton textile industries of the Far East has greatly restricted these important markets.

The consumption of American cigarette tobacco continues large, but the imports have not increased at as high a rate as the consumption of cigarettes. This has been due to the increasing competition in the British market of tobacco of competing types from British Empire sources.

The market for American cured pork products probably will continue to be restricted by heavy marketings from continental European countries through most of 1928, after which some improvement in demand for our products is to be expected on account of reduced supplies from the European sources.

The British market has taken smaller quantities of American apples so far this season as compared with last year as a result of the relatively high prices of American apples, larger European production, and unusually heavy supplies of Spanish oranges. The large Australian apple crop may limit the market for American apples during the last two months of the present marketing season. Shipments of oranges and grapefruit to the United Kingdom continue to show an encouraging increase. All fruit imports from the United States, however, may be somewhat adversely affected by the continued low purchasing power of consumers in Great Britain.

In Germany there may be some recession from the high volume of business attained in 1927. There is some uneasiness as to developments in 1928, but with employment good and wages tending to increase no considerable reduction in purchasing power is anticipated. The outlook for German consumption of

American cotton in 1928 is, on the whole, fairly favorable, but is not so bright as a year ago. The German cotton mills rely largely upon their domestic market, but although the demand from that source is expected to continue good increasing competition from French and Italian manufacturers is expected. The increasing competition in Germany seems likely also to affect unfavorably the Czechoslovakian and Austrian cotton industries, which are largely dependent upon exports to Germany. In Poland some recession from the high prevailing activity in cotton industry in 1927 is to be expected.

An improved German demand for American cured pork products is probable near the end of 1928, when German hog marketings are expected to decline. Although imports of American lard into Germany during 1927 showed a falling off as compared with the previous year, they were not affected to the same extent as were the imports of cured products by the heavy marketings of German bacon-type hogs. Whatever effect the substitution of other fats, particularly butter, has had upon decreasing the consumption of lard, its peak probably was reached in 1927. The German tobacco manufacturing industry generally regained a much more stable basis during the last year and it seems probable that the imports of American dark tobacco will be as large as last year. The recent reduction in the German import duty on prunes will undoubtedly benefit American prune exporters, but the 1928 Yugoslav crop will probably be considerably larger than the very short crop of 1927, and increased competition from this source may be expected.

France is entering this year with considerably better prospects than at this time a year ago. Although industrial activity continues at a low level, the franc has been stable for many months, and domestic economic conditions promise to show steady, though slow, improvement. This will probably be reflected in better demand for cotton textiles, which, coupled with real evidence of increasing exports of cotton goods, seems sufficient to insure activity in 1928 in the cotton textile industry fully equal to or probably better than that of last year.

Prospects in Italy are also more promising. The recent stabilization of the lira lays the foundation for the recovery in economic conditions. It seems possible that Italian cotton spinners, in spite of higher prices, will buy as much American cotton this year as last. Widespread reports of increasing Italian competition in practically all continental markets clearly indicate that the Italian cotton industry has made rapid progress in readjusting production costs to the new level of the lira. Both spinning and weaving branches have found it possible to increase the rate of production in recent months.

Russian cotton mills plan to consume more cotton this year than last but a large part of the American cotton needed in this program was on hand at the beginning of the season as a result of the unusually large takings from the low-priced 1926 crop. In any case Russian purchases of American cotton this year may be affected by the failure of grain exports of 1927-28.

In the remaining European markets the demand for American agricultural products upon the whole appears likely to be somewhat better than last year. Economic conditions in Belgium continue to show improvement, and activity in the cotton mills promises to remain satisfactory. Some recession in competitive supplies of cured pork products from Denmark and the Netherlands seems probable during the coming year. Indications point to continued good demand for American tobacco and dried fruits in the Netherlands. In Norway and Denmark, where depressed conditions have prevailed during recent years, prospects are brighter, and with continued prosperity in Sweden there should be an improved demand for such agricultural products as the Scandinavian markets take from the United States.

China last year showed its usual surprising ability to carry on business under difficult conditions. Although tobacco imports from the United States decreased, the takings of low-priced American cotton were large. The Chinese cigarette business suffered a severe setback during 1927 but there is encouragement in the fact that it persists in such volume as it does in the face of civil war, irregular taxation, and disrupted transportation. The condition of the Chinese cotton industry is very much improved over last summer. Stocks of goods are low, mills are in full operation, and the goods are getting into the interior. There is a good crop of Chinese cotton this year which will be used in the manufacture of low-count yarn. There is no prospect that China will take as much American cotton this year as it did of the low-priced 1926 crop, but the demand for our cotton for use in the manufacture of high-count yarn promises to be relatively good.

In Japan depressed conditions prevailed during 1927 and prospects are not good for a material improvement in the near future. Because of accumulated stocks of cotton goods and unfavorable market prospects at home and abroad, the Japanese spinning industry adopted a curtailment of 12 to 15 per cent in their operations to extend between November, 1927 and April, 1928. The spinning industry is in a strong financial condition but the general business depression has brought about hand-to-mouth buying. Low-priced American cotton last year replaced a considerable quantity of Indian cotton but with present prices there is no prospect of that occurrence this year.

AGRICULTURAL CREDIT

The credit outlook for agriculture is in general somewhat improved over that of a year ago. The supply of credit for the country as a whole continues relatively abundant and is based on ample gold reserves. The interest rates on commercial and industrial loans and on securities of all kinds have been further lowered during the last year, and there has been some evidence of a downward tendency in the cost of agricultural credit.

In most sections of the country the improved agricultural returns of 1927 have made possible some reduction in outstanding credit obligations of farmers, and have increased the available security for the new loans needed for the coming season. A slight increase may also be expected in the number of farmers who finance their production program without the aid of credit. As usual, the situation will be spotted. This is particularly true of the East North Central States, and of the States that last year suffered flood disasters. Even where no special adversities were encountered during 1927, varying percentages of farmers, as in other years, particularly since 1920, will be found without substantial security for needed loans other than the new crops in prospect. Local credit difficulties in numerous cases, will also be due in part to additional failures of country banks, such failures resulting as a rule from the cumulative effects of years of postwar agricultural depression rather than from conditions prevailing in 1927. In such cases the deposits of more successful farmers will be temporarily tied up if not permanently lost, and the lack of local credit agencies increases the difficulty of drawing upon more distant sources of capital. In general, however, the agricultural credit situation shows improvement.

During the latter part of 1927 and until January 24, 1928, all of the Federal reserve banks had discount rates of $3\frac{1}{2}$ per cent. Since that date the Chicago and the Richmond banks have raised their rates to 4 per cent. A year ago all of the 12 reserve banks were operating on a 4 per cent basis. Prices of high-grade bonds have reached new high levels with a corresponding lowering of the interest yield. The yield of certain Government bonds has decreased to about 3 per cent. No extraordinary demands for credit in commerce and industry are in prospect in so far as can be foreseen at present, and it is improbable that any minor changes that may occur in commercial loans and discount rates will materially affect the interest rates in rural districts.

The Federal intermediate credit banks now, in most cases, rediscount agricultural paper at a rate of $4\frac{1}{2}$ per cent, as compared with a rate of $4\frac{3}{4}$ per cent a year ago, and this lower rate promises soon to be in effect for each of the 12 banks in this group. This reduces the upper limit of rates to the farmer, on loans thus discounted, from $6\frac{3}{4}$ to $6\frac{1}{2}$ per cent on general loans and from $7\frac{1}{4}$ to 7 per cent on livestock loans. The rate charged on direct loans to farmers' cooperative associations by all the intermediate credit banks still remains at $4\frac{1}{2}$ per cent, where it stood at the time of the 1927 Outlook Report. The rates of commercial banks in leading cities on loans secured by warehouse receipts vary from $4\frac{1}{2}$ to 6 per cent.

In the field of farm mortgage credit no striking changes have occurred during the last year nor are any important changes in immediate prospect, so far as can be foreseen. Among the 12 Federal land banks there have been minor reductions in the rates charged by three banks, while the others maintain the same rates that were charged a year ago. Nine of these banks now charge 5 per cent; two, the Columbia and the Berkeley banks, charge $5\frac{1}{4}$ per cent; and one, the Spokane bank, charges $5\frac{1}{2}$ per cent. A few of the joint stock land banks, on the other hand, have fractionally increased their rates during the year. The present rates for this group range from $5\frac{1}{4}$ per cent to 6 per cent, with 6 per cent the most common figure.

On the whole, and more particularly in the Cotton Belt, in the western part of the Corn Belt, in the spring wheat sections, and in the range sections, the credit situation for 1928 promises to show improvement over that of 1927.

FARM LABOR, EQUIPMENT, AND FERTILIZER

With industrial employment continuing at a lower level than during 1927, there is likely to be a larger supply of farm labor during 1928 because of the close relationship between the volume of industrial employment and the supply of farm labor. As pointed out in the Agricultural Outlook for 1927, the falling off of industrial employment resulted in a somewhat larger supply of farm labor in practically all sections of the country, and average farm wages for the United States became lower than the year before, by summer, and continued at slightly lower levels through the rest of the season.

In the South, as a result of the decreased demand for farm labor in 1927, wages fell off more than in other areas. With better prices of farm products prevailing in the South it is quite likely that the demand for hired labor will be greater than in 1927 and farm wages will probably be maintained or advanced slightly.

During 1927 the use of the combined harvester-thresher resulted in lower wages at harvest time. Unless there is unusually heavy abandonment of winter-wheat acreage some increase in the demand for farm labor may be looked for during the wheat harvest, east of the Mississippi, in 1928. In the Great Plains the increasing use of the combine may result in a decreased demand for harvest hands. An unusually heavy production of any important crop is likely to result in an increased demand for harvest labor, such as occurred in the Western States in 1927.

From present indications, wholesale prices of farm machinery will not differ greatly from the prices of 1927.

Wholesale prices of building materials declined during 1927 (as indicated by an index of 175 in January and 161 in November) largely because of the smaller volume of construction of residences and office buildings. Retail prices have declined less than have wholesale prices and unless there is an unexpected increase in building activities during 1928 the retail price of building materials, especially when bought in large quantities, probably will show some further decline.

Wholesale prices of mixed fertilizers have advanced steadily since May, until in December they were only 4.9 per cent below the average prices of a year ago. Retail prices of mixed fertilizers and fertilizer materials in December were at about the same level as a year ago, but about 6 per cent higher than last spring. The decrease in cotton acreage and the smaller purchasing power of the South caused a material decrease in the quantity of fertilizer consumed in 1927; fertilizer prices broke sharply and reached the lowest point in many years late in the spring. Since it is probable that consumption will be somewhat larger than last year, it is not likely that prices will decline during the spring as they did in 1927. The expected increase in demand for fertilizers, especially in the South, may result in higher fertilizer prices to farmers than prevailed during 1927.

Tag sales in the 13 important fertilizer-consuming States from August to December, 1927, were 17 per cent larger than for the same period in 1926 and 24 per cent larger than in 1925. The greatest increase in tag sales has been in the South Atlantic States and Alabama and Mississippi, where sales were unusually low in 1927.

COTTON

When American cotton growers begin to market the 1928 crop, it is probable that they will meet the relatively favorable condition of a smaller carry-over than last year, and a demand situation about the same as for the 1927 crop. The most uncertain factor in the outlook is the size of the 1928 crop. Cotton growers have in their own control the determination of the acreage to be planted this spring. Yields per acre also can be influenced by applications of fertilizer and cultural practice including weevil control. In planning production growers should remember the very low prices resulting from over-planting in 1926.

The yield per acre will depend to a material extent upon the abundance of boll weevils. Weevils undoubtedly entered hibernation in the fall of 1927 in larger numbers and with greater vitality than for several years.

The extent to which they were destroyed by the very low temperatures experienced for several days in January over a major portion of the Cotton Belt is still undetermined. Past experience, however, and such information as is available indicate that a considerable percentage of hibernating weevils still survive even where the early January temperatures were as low as 10°. Later periods of low temperatures might reduce the number of weevils to a point where they will cease to be a serious danger in 1928, but even a relatively light emergence would constitute a menace in case the growing season should favor boll weevil propagation.

In the areas where fertilizer is customarily used, it is an important factor both in increasing yields and in reducing boll weevil damage through hastening the maturity of the crop. Any increase in the use of fertilizer should be by application of more pounds per acre rather than its use upon more acres. In planning his acreage, however, the individual cotton farmer should be guided to some extent by the total purchases of fertilizer for use in cotton production, as any material increase in the use of fertilizer may have a material effect upon total production.

Cotton producers should not be induced, by the higher prices received for the 1927 crop, as compared with that of 1926, to increase acreage. An area equal to last year, with a ten-year average abandonment and yields per acre, would result in a crop only slightly larger than last year's. But if yield per acre should equal that of the last four years, during which weevil damage was only about half of that of the past ten years, the crop would be considerably larger than last year. Such an increase in the crop, however, would probably be offset by the decrease in the carry-over at the end of this year, and would make a total world supply not much different from the total world's available supply of American cotton as of August 1, 1927. To the extent to which cotton growers increase their acreage over that planted in 1927 they will tend to reduce the total return from the 1928 crop.

The purchasing power of foreign consumers and the foreign demand for American cotton in the season 1928-29 seem likely to be about the same as during the present marketing season. It seems probable that improvement in the business situation and textile mill activity in France and Italy will largely offset any depression that may occur in Germany and other central European countries, while conditions in Great Britain and Japan probably will, at most, be no worse than they now are. Present prospects are that the Indian cotton crop will be a little larger than last year but the Egyptian crop may be smaller. Conditions appear to be favorable to some increase in planting in other foreign countries, but any probable increase in total production of cotton in these countries will not be an important factor in the demand for American cotton.

WHEAT

The present indications are that, with average or better than average yields, another large world crop of wheat will be harvested in 1928. Winter wheat acreage in the United States was increased 10 per cent, and increases are shown for all foreign countries that have reported to date. The prospects are for a larger acreage of spring wheat in Canada if conditions are favorable for spring seeding. Any material increase in the acreage of hard red spring wheat in the United States, if average or better than average yields are secured, will further tend to increase the world supply for market next fall and winter, and will probably reduce returns to growers as compared with 1926 or 1927. However, should excessive abandonment of winter wheat occur, especially in the hard winter wheat States, the situation might be materially changed for the spring wheat grower. Winter wheat for the country as a whole went into the winter with a condition considerably above average, but the condition of wheat in the hard winter States, from Nebraska south, on December 1 was somewhat below average, and conditions since December 1 have not been favorable, largely because of drought. Spring wheat growers should closely watch the weekly reports of the Weather Bureau as well as the April 1 condition report of the Crop Reporting Board.

The world's wheat area outside of Russia and China continues to expand. In spite of the late spring in Canada, and droughts in Australia and Argentina, the area harvested in 1927 was greater than in 1926. The area harvested is estimated to be 234,500,000 acres as compared with 231,000,000 in 1926, and 230,000,000 in 1923—a year that produced a very large crop. The estimates of winter seedings of six countries reporting to date for 1928, amount to

61,500,000 acres as compared with 55,700,000 last year, an increase of 10.4 per cent. Although these countries last year contained only 24 per cent of the world's wheat area outside of Russia, the increases reported are significant. The area seeded in Italy is reported to be about equal to last year. In Germany and England there was some delay in seeding which may have resulted in some decrease in area. In general, weather conditions have been favorable to seeding and to the development of the crop in Europe outside of Russia, except for a cold wave the last of December which is reported to have done some damage in Northern Europe.

It is to be expected that, should weather conditions be favorable in Canada and Australia, there will be at least a recovery of the acreage in these countries which was reduced last year because of unfavorable conditions, and some further expansion in Canada is not unlikely. Reports indicate that a greater proportion of the area intended for spring seeding in the Prairie Provinces has been plowed than last year.

The effect of the prospective expansion in world wheat area, outside of Russia, may be offset, in part, by a reduction in Russia. Conditions do not now appear favorable for a good winter-wheat crop in Russia. Trade reports indicate that the winter seedings in the Ukraine may be about 6 per cent less than last year, and growing conditions have been rather unfavorable in other parts of southern Russia.

The world's carry-over of old wheat on July 1, 1928, is likely to be slightly larger than last year. World production, exclusive of Russia and China, is estimated to be about 3,543,000,000 bushels compared with 3,421,000,000 last year, an increase of 122,000,000 bushels.

The accounted-for supply of world wheat on hand on July 1, 1927, was about 56,000,000 bushels greater than at the beginning of the 1926-27 season. Production plus carry-over indicates an increase of about 178,000,000 bushels in total supply of wheat for the season; but poorer quality of the crop in some countries and reduced supplies from Russia largely offset increased volume of production outside of Russia. Furthermore, the higher prevailing prices for rye and other foodstuffs in comparison with lower prices for wheat will probably increase the consumption of wheat in Europe so much as to absorb practically all of the increase in the volume of supplies.

The heavier production of wheat in the northwestern part of the United States and delay in the movement of Canadian grain on account of a late harvest may result in some increase in the July carry-over of wheat in those countries, while the stocks in the Southern Hemisphere may be reduced to less than last year on account of the smaller Australian supply. Some North European countries may increase their holdings at the end of this season as compared with the beginning of the season. The net result may be a slight increase in the world's carry-over of wheat.

WINTER WHEAT

The area seeded to winter wheat in the United States in the fall of 1927 is estimated to be 47,897,000 acres, an increase of 10 per cent over that seeded in the fall of 1926 and 15 per cent over the five-year average acreage seeded 1922-1926. The greatest change in acreage has taken place in the eastern Corn Belt States with an increase of 30 per cent. This represents in part a return to normal seedings which have been curtailed the past two years by unfavorable weather conditions and in part probably by an actual upward tendency in acreage. The large increases in Montana and South Dakota probably represent, in part, shifts from spring wheat.

In other parts of the country the changes in acreage were much less marked amounting to 5 and 6 per cent, respectively, in the hard winter wheat States of the Southern Great Plains and in the soft winter wheat States of the Appalachian region and to 5 per cent in the Pacific Coast States. The increase in the hard winter wheat States, following an even larger increase last year, may be of considerable significance both to the growers of this class of wheat and to the producers of the hard spring wheat which comes directly into competition with it. The increase in the Pacific Northwest, on the other hand, may not be of much significance since, in the past, increases in fall seedings in this area have usually been followed by reduced seedings in the following spring. The present acreage of white wheat, with average yields, however, is sufficient to keep the United States on an export basis. The

indicated reduction in the Australian crop may be a strengthening factor in the demand for American white wheat.

The production of soft red winter wheat was curtailed in 1927, but the production of hard red spring, durum, and white wheat was considerably higher than in 1926 or since 1924. Although the production of hard red winter wheat was slightly lower than in 1926, it is still large enough to keep this class of wheat on an export basis and the price is now below that year's level. The prospect which was pointed out in last year's report, for a relatively favorable price for soft red winter wheat because of the smaller seeded acreage, has materialized. With the increased acreage this year, however, these premiums may not continue.

If yields and abandonment in acreage throughout the United States, this year, should be equal to the 10-year average, the area seeded would produce around 630,000,000 bushels of all winter wheat in the United States in 1928. About 356,000,000 bushels of this would be of hard red winter wheat, 220,000,000 bushels of soft red winter, and the remainder of white wheat. Should this production result, it would represent an increase of about 35,000,000 bushels of hard red winter and an increase of slightly less than 40,000,000 bushels of soft red winter wheat over the 1927 production. The indicated increase in the hard winter wheat States may not materialize since the condition of the crop on December 1 was below average, and weather conditions have not been very favorable since that time. In other areas unfavorable weather may also have affected the crop to some extent.

HARD RED SPRING WHEAT

Production of hard red spring wheat in 1927 was only slightly short of 200,000,000 bushels. This record production, due in part to high yields and in part to an increased acreage, has put the price of this class of wheat upon an export basis, except for premium grades—a contingency which was pointed out in this report last year.

The 1927 harvested average of hard spring wheat was about 1,000,000 acres larger than the previous year. Even with average yields this acreage would produce close to 170,000,000 bushels of wheat in the United States in 1928, which is sufficient to keep the United States on an export basis. If the hard red winter wheat crop comes through the winter in good condition, hard red spring wheat farmers should hesitate to increase their present acreage of spring wheat and may even find it to their advantage to decrease it somewhat in favor of flax, particularly in those areas where good yields of flax are usually obtained. (A comparative statement of the relative returns from flax and spring wheat under different price conditions is presented in the section on flax, pp. 16-17.)

Since wheat now sells in terminal markets largely on a quality basis, farmers should strive to secure the benefit of such premiums as are paid, by producing wheat of high protein content, which is free from smut, dockage, and other foreign material, in so far as they are able. Although it is not possible to estimate in advance of harvest what the quality of the crop will be, farmers may influence protein content somewhat by planting wheat after legumes, and by selecting rust-resistant varieties they may curtail the spread of this disease.

DURUM WHEAT

The outlook for durum wheat is quite uncertain. The relatively low prices now prevailing are the result of good crops in the United States, in North Africa, and in Canada. The present prospects are for another good crop in North Africa. The area seeded in Tunis is reported to be nearly 31 per cent greater than last year, which was, however, considerably below the average. The area reported for this year is about the average for recent years. Conditions in Algeria are reported to have been favorable for seeding. The rainfall was well distributed except in the department of Algiers where drought delayed work. The North African crop, however, is always uncertain until harvest, and conditions in this area should be watched through the season. The area of wheat seeded in Sicily is reported to be larger than last year. Canada continues to expand durum production; inspections of durum during the first four months of the season were larger in number than during that period last year, and double those for the same period in 1925. It appears, therefore, that

unless there are crop failures in some of the competing countries, even stronger competition may be expected next season than in 1927-28. Should Italian producers of durum wheat secure average or better-than-average yields, giving them a larger crop than harvested last year, there would be no increase in demand to offset any increases in production in North Africa or Canada.

RYE

Domestic rye production is relatively small and a considerable portion of it is exported. Therefore, it has but little influence upon prices, as returns to growers depend very largely upon the world situation. Although the present prospects are for some increase in the world's rye acreage next year, as all countries reporting to date except Canada show some increase in acreage seeded for harvest in 1928, the present situation is not likely to be materially changed in 1928 unless high yields are realized in Europe. The high yields of 1927 in the United States are not likely to be repeated in 1928. Although the estimated world acreage of rye (exclusive of Russia) in 1927 was somewhat larger than in 1926, being 46,100,000 as compared with 45,500,000 acres, this area remained lower than in 1925 when nearly 46,600,000 acres were harvested.

The United States acreage seeded in the fall of 1927, 3,802,000 acres, was about 3.6 per cent more than in 1926. The average yield in 1927 was 16 bushels, which was the highest since 1915, and is not likely to be repeated in 1928. This resulted in a production of 58,572,000 bushels.

The 1927 world's rye production in countries reporting to date amounts to about 879 million bushels as compared with 802 million in 1926, an increase of 9.6 per cent. This year's crop is considerably below the 1925 crop which amounted to about a billion bushels, but is close to the average for the last five years. The relatively high price now prevailing for rye as compared with wheat is due to a moderate world crop following a short crop and to the relatively poor quality of this year's crop in Germany, which is the most important market for the surplus of exporting countries. Higher rye prices in Europe may have led to some increase in rye seedings in some countries or at least may have checked tendencies to shift from rye to wheat. The effect of these higher prices, however, may have been offset to a certain extent by the somewhat unfavorable conditions for seeding in Germany and Poland, the two most important European producing countries outside of Russia.

FLAX

Production of flaxseed in the United States is still well below domestic requirements and may be increased materially before bringing domestic prices to the world level. Domestic requirements have averaged slightly over 40,000,000 bushels yearly for the last three years. This is 18,000,000 bushels more than would result from average yields on an acreage equal to that of 1927. The highest yields on record on such an acreage would produce 32,000,000 bushels, and the lowest yield on record would result in a crop of about 13,600,000 bushels. Since domestic flaxseed prices are largely determined by world supplies and requirements, growers should watch developments not only in the United States but also in foreign countries.

The world's harvest of flaxseed this season is about 18,000,000 bushels larger than last year. The combined harvest in the United States and Canada in 1927 was approximately 31,300,000 bushels, or 6,000,000 bushels larger than that of 1926. Production in Argentina is forecast at about 81,216,000 bushels, or 12,000,000 bushels over last year's estimate, while the outturn in 11 other countries, including all important producers of flaxseed except India and Russia, is substantially the same as last season. Early indications, however, are that the Indian crop may be hardly as large as in 1926-27. Stocks of flaxseed in Argentina and India are smaller than a year ago.

So far as can be determined, the present utilization of flaxseed during the rest of the 1927-28 season is likely to be fully equal to that of the same period last season. Slightly lower prices for linseed oil favor increased consumption of that product, although stocks of oil are likely to continue large. Demand for linseed meal has been active and promises to continue to be a strengthening factor in the market for flaxseed. Higher prices of meal are tending to offset the lower prices of oil.

European demand for the large Argentine surplus that is again in prospect this season will be a dominant factor in world flax markets. The larger crop of flaxseed in North America will tend to restrict United States imports of Argentine flaxseed and thus direct an increased proportion of the total Argentine shipments to Europe. Unless European consumers absorb the surplus readily, the pressure of these offerings is likely to be reflected, at least in part, in the United States when the domestic crop of 1928 comes on the market.

Shipments of Argentine and Indian seed to Europe in 1927 were about 25 per cent larger than in 1926, but the conditions which favored heavy consumption in the latter months of 1927 may not obtain later in 1928. Linseed meal is relatively a more important product than linseed oil in Europe, and a shortage of feed grains in Europe this season, together with the smaller amounts of cottonseed meal available there from the United States, helped to widen the outlet for linseed meal, so that prices of that feed are practically the same as a year ago, in spite of the increased output. Prices of feed grains in Europe will likely be lower next season if average yields are secured in 1928.

The liberal output of linseed oil in Europe in recent months has resulted in some increase in stocks at a number of points. Competing oils, however, are relatively high priced, and a good demand for linseed oil is anticipated during the next few months.

Next season's flax acreage in Argentina will also have become a factor in flax prices when the 1928 United States flax crop comes on the market. Argentine flax prices at present are approximately 10 cents per bushel higher than a year ago, largely because of lower ocean freights. These higher prices favor a further increase in the Argentine flax acreage in 1928.

Per acre returns to United States farmers from flax in 1928 will probably be lower than in 1927, but indications are that with average yields flax will still be relatively more profitable than the other spring grains grown in the same area and under the same conditions. In making their decision farmers should be guided by the relative yields and prospective prices of flax and of other spring grains in their own localities as well as by the expenses, which will vary in shifting from one crop to the other.

With average yields of wheat and flax the net returns per acre from flax selling at \$1.90 per bushel would be equivalent to those from wheat selling at \$1.30 per bushel. With the same yields, flax at \$1.60 per bushel would be as profitable as wheat at \$1.10. On the other hand, if flax sold at \$2.20 per bushel, wheat would have to sell for slightly over \$1.50 per bushel to be as profitable.

Where the seeding of spring wheat is delayed it may be advantageous to increase the acreage of flax somewhat at the expense of spring wheat, especially on clean land suitable for flax. The decreasing demand for oats as a feed crop also suggests that where oats are grown for market farmers may well consider whether flax might not produce a greater monetary value.

RICE

The rice acreage was reduced last year from 1,034,000 to 989,000 acres, but the increase in yield produced a crop nearly as large as in 1926 and the carry over at the beginning of the 1927 season was greatly increased. The production is still in excess of demand at satisfactory prices, and a further reduction in acreage appears advisable.

In Louisiana, Arkansas, and Texas the further substitution of soy beans for a part of the rice acreage, and the adoption of rotation of soy beans with rice, would serve to reduce rice acreage and decrease production costs. The demand for rice may be increased by shifting production in the Southern States to rices of better cooking qualities and by supplying the market with unmixed rices free from broken kernels, red rice, and excessive moisture content.

The carry over of rice at the beginning of the 1927-28 marketing season was so large that the total supply available for distribution was only slightly smaller than at the beginning of the 1926-27 season. Prices have been even lower than the unsatisfactory prices of 1926-27. Exports of rice during the past season were on the highest level since 1922-23. Continued large exports will be necessary during the present season if accumulation of heavy stocks is to be prevented, since it is not likely that the domestic market, and Porto Rico,

will take quantities materially larger than last year. An encouraging feature of the southern rice export situation, so far this season, has been the marked increase in the takings of American rice by Cuba as compared with the same period in recent years. Reports received to date on the rice production in the Far Eastern countries which compete with the Southern States in foreign markets are fragmentary, but it appears that supplies available for export to competitive markets will be as large as, if not larger than, last year.

By means of large exports, principally to Japan, California was able not only to dispose of the large 1926 production but also to reduce stocks. The rice acreage harvested in California in 1927, however, was 7 per cent larger than in 1926 and the crop was over 12 per cent larger than in 1926. The supply available for export is, therefore, larger than last year. The prospects for disposing of this rice are not as good as were prospects in 1926-27. Japan, which takes the major part of the California rice that is shipped to foreign countries, produced in 1926 the smallest crop for several years and imported large quantities of foreign rice. The 1927 Japanese crop, on the other hand, was apparently the largest on record, and this, together with large supplies from Chosen, and the fall in the Japanese exchange, will undoubtedly restrict the imports of California rice.

OATS

Relatively unsatisfactory returns from the production of oats for sale as grain during recent years is emphasized by the present situation. Market prices are now well above last season, but these are largely due to low yields, which have been 10 per cent below average for two successive years. The relative price of oats, however, even at recent levels is one of the lowest of the group of farm products.

The decline in the number of horses on farms has probably reduced the yearly requirement of oats for feed by some 125,000,000 to 150,000,000 bushels since 1919. A further decrease has resulted from the rapid decrease in the number of horses in cities. The use of oats for dairy cattle and in mixed feeds has shown some tendency to increase.

Last year's reduction of some 4 per cent in the total oats acreage, accompanied by low average yields, resulted in the smallest crop since 1922. A considerable portion of this decrease occurred in the Corn Belt States east of the Mississippi River, where the unusually wet weather at seeding time tended to reduce the acreage of corn and oats and to increase the acreage of barley.

Supplies for the current crop year are the smallest since 1921-22. The carry over of old grain on farms and in commercial channels was small, and this fact, together with the reduction in the crop, indicates a total supply for the current season of 1,269,000,000 bushels, compared with 1,389,000,000 bushels last season and 1,604,000,000 bushels for 1925-26. Considering the supply of other feed grains and the disappearance during recent years, this season's supply appears to be about sufficient for domestic needs. The low quality of the crop and the scarcity of high-quality grain have caused an active demand for the better grades, and higher prices for other feedstuffs have also tended to strengthen the market for oats.

The average farm price of oats to producers on December 1 was 45 cents per bushel as against 40 cents on the same date last year. Future prices at Chicago have held above those of the last two seasons and cash prices have tended to follow futures with substantial premiums quoted for best-quality grain.

The supply of oats now on hand appears to be smaller than last year and a fairly active demand for oats with premiums for good-quality grain seems probable during the remainder of the season. During the next crop year, however, should an average crop of good-quality grain be obtained, the market situation is likely to be less favorable. The prospective market outlook for 1928 is significant for farmers who grow oats for sale although it may be desirable to maintain or increase acreage in certain localities where climatic or other conditions are particularly favorable for oats.

BARLEY

The unusual situation of a record barley crop selling at relatively high prices is not likely to be repeated in 1928. The high prices received for the 1927 crop were largely the result of an increased foreign demand arising from a shortage

of feed grains in Europe this season. It is improbable that the European supply of feed grains next year will be so small as this season. There is also little prospect of any material increase in domestic requirements for barley or in the export demand for malting-quality grain from the Pacific coast.

The market value of barley next season is more likely to be determined largely by the domestic supply of that grain and the supply and prices of other feed grains, and farmers should take these factors into consideration, rather than present prices, in determining the barley acreage for the coming year.

A record crop of about 265,600,000 bushels of barley was produced in 1927, resulting from a 20 per cent increase in acreage combined with good yields. This compares with an average production of 192,600,000 bushels for the preceding five years. The principal increase was in the North Central States, although acreage increased in practically every State where grown east of the Rockies. The barley crop on the Pacific coast, principally in California, was slightly smaller than last season.

The world's barley crop as reported to date is around 69,000,000 bushels above that of last year, with large increase in the United States and in North Africa and a considerable decrease in Europe. European production of corn and oats is also below last year, showing reductions of 179,000,000 bushels and 54,000,000 bushels, respectively.

The smaller European supply of feed grains has been reflected in greatly increased exports of United States barley from the territory east of the Rockies. Exports from San Francisco to January 1 were slightly smaller than last season, but United States exports July 1-December 31, 1927, totaled about 22,000,000 bushels more than last year's exports for the period, and account for about one-fourth of the increase in the crop.

The largest relative increase in exports of barley to European countries occurred in shipments to Germany, which for the first half of the crop year July-December totaled nearly 9,000,000 bushels, compared with less than 850,000 bushels during the same period last year. Exports to the United Kingdom were more than 50 per cent larger than for the same period last year. The movement of United States barley to Canada, most of which passes on to European countries, has also shown an enormous increase over last season, totaling for July to December this season nearly 10,300,000 bushels, compared with around 1,780,000 bushels last year.

Higher corn prices earlier in the season, together with an increasing popularity of barley as a feed grain, have probably increased the quantity used for feed during this season east of the Rockies. Disappearance has also been large on the Pacific coast. Warehouse stocks in California December 1, 1927, were less than half of those a year earlier, and farm stocks were estimated at around 109,000 tons, which would indicate materially smaller supplies in that territory this spring. In view of the heavy movement to Europe and the relatively higher prices of corn and oats, the market demand during the remainder of the season promises to continue fairly active.

CORN

Corn acreage in 1928 will probably show little change from last year. With little change in acreage and average yields in different sections of the country, a 1928 crop about equal to 1927 may be expected. Should the distribution of the 1928 corn crop be more nearly normal than in 1927 and the average yields be obtained, prices are more likely to approach the average for the 1926 crop than have those which have prevailed to date for the 1927 crop. Corn prices are expected to continue above last year's level through the winter and early spring months. Prices during the remainder of the season will be determined largely by new crop prospects and the supply of corn and other feed grains available.

The total supply of corn on November 1, 1927, including carry-over on farms and in the principal markets, was about 1 per cent larger than a year ago. The geographic distribution of the 1927 crop was most unusual. Only about 21 per cent of the corn for grain was produced in the East North Central States, as compared with 27 per cent last year and 32 per cent in 1925. The production of corn in this area was the second smallest in many years, and was only slightly larger than the short crop of 1924. On the other hand, the production of corn in the West North Central States was the second largest for a long period. The relatively ample local production in the South Atlantic and South Central States which characterized the 1926 crop was repeated in 1927.

The demand for the 1927 crop promises to be slightly larger than last season. There are apparently more hogs to feed than there were last year. Beef-cattle prices are an incentive to feeding where supplies of corn are ample, as in the West North Central States, but the total amount of cattle feeding is expected to be less than a year ago. The numbers of cattle, horses, and mules are less than last year.

The supply of oats is the smallest since 1913, and prices are higher. Heavy exports of barley have materially reduced the record supply of that grain and placed prices well above last season. The supply of grain sorghums is about the same as a year ago. A record hay crop may reduce the consumption of corn in areas where corn is short. Advancing prices in European markets caused by a short corn and barley crop in Roumania and other important producing countries in Europe are a strengthening factor in the domestic market. The commercial demand for corn in the United States is not likely to change materially from last year.

It is only by giving considerable weight to the influence of the geographic distribution of the corn crop that it is possible to explain the low market prices for corn for the 1926 crop and the much higher prices that have prevailed to date for the larger 1927 crop. Total supplies are slightly larger than a year ago, feeding requirements may be a little greater, and the general price level of all commodities has not changed materially since last season.

In 1926 ample supplies of corn in the East North Central States and in the South resulted in an accumulation of visible supply at primary markets which had a depressing effect on prices from October to April, and the usual seasonal advance did not take place. Prospects of a short 1927 crop caused prices to rise to high levels beginning in May, and it was not until the fall of 1927, when a much better crop than was expected became assured, that corn prices began to decline. These changes in the location of corn supplies this season are reflected in farm prices, which were 4 and 5 cents per bushel lower on December 15 than a year ago in Nebraska and Kansas, respectively, but 20 cents higher in Indiana, 19 cents higher in Ohio, and 16 cents higher in Illinois.

Corn prices for the present season will probably continue above last year's level during the next few months, but with average prospects for the new crop they may average lower than corn prices last season during the latter part of the present crop year.

The acreage of corn for the United States in 1928 will probably show little change from the 1927 acreage, but a more even distribution of the crop in the Corn Belt may be expected. The probable shifts in crop acreages in the South Atlantic and South Central States would bring about a reduction of from one to two million acres in corn, and the increase in winter wheat acreage in the West North Central States may also cause a decrease in corn acreage in that area in 1928. With reasonably favorable weather at planting time in the East North Central States, an increase of from one and one-half to two million acres over the unusually low acreage of 1927 may be expected. The relatively small acreages in the North Atlantic and far Western States will probably remain about the same as in 1927. With average yields in these different areas, a crop about equal to 1927 would be produced in 1928. Farm carry-over in the fall of 1928 is not likely to be materially different from that in 1927.

Feeding demand for the 1928 corn crop is likely to be somewhat less than that for the 1927 crop, as a decrease in the number of hogs to be raised in 1928 is indicated by the pig survey and other information. Numbers of horses in the country are expected to show further reductions, and cattle numbers will show little if any increase. The expected decrease in available supplies of feeding steers may not affect the feeding demand for corn as much as would normally be expected, because cattle prices next fall are likely to encourage feeding, and if feeder steers are not available more cows, heifers, and calves will be fed. The commercial demand for corn is fairly stable from year to year and is not likely to change materially during 1928-29.

BEEF CATTLE

Market supplies of cattle in 1928 will probably be 6 to 10 per cent smaller than in 1927. The number of cattle and calves on farms and ranges January 1, 1928, was 2 per cent smaller than a year earlier and was the smallest number since 1912. In view of the expected relatively high price of beef compared with other important meats, demand for beef may be somewhat less than in 1927.

It seems reasonably certain that prices of slaughter cattle will average higher than in 1927, although peak prices of that year may not be equaled. Stocker and feeder cattle are expected to enjoy a good active market in 1928 with average prices for the year above those of 1927.

Cattle numbers in the United States continued to decrease during 1927. The estimated number on farms January 1, 1928, was 55,696,000 head which was 1,176,000 head, or 2 per cent smaller than on January 1, 1927. This was the smallest number of cattle on farms since 1912 and probably the second smallest since 1898. Both of these years represented low points in cattle production cycles. With the exception of 1921, total slaughter of cattle and calves each year since 1917 has exceeded the number of calves born. This heavy slaughter did not affect market supplies noticeably until the middle of 1927. After August supplies dropped off sharply, and the slaughter during the last four months of the year was the smallest since 1922.

The proportion of steers in the total cattle supply also decreased in 1927, and especially the proportion of steers 2 years old and over. The number of two-year-old steers per 100 yearlings, as indicated by reports as of December 1 from some 125,000 farms and ranches, declined from 83 in 1926 to 72 in 1927, and the number of steers per 100 cattle declined from 10.7 to 9.7. The number of calves per 100 cattle increased slightly, as did also the number of steer calves per 100 cattle.

Most areas and nearly all States showed decreases in cattle numbers during 1927. The most significant decreases were in the North Central States, which furnish the bulk of the cattle slaughtered east of the Missouri River, and in some of the States west of the Continental Divide, which furnish the Pacific coast cities with beef supplies. In Texas and the Southwest cattle and calf marketings in 1927 were in excess of those in 1926, and in Texas the shipments of calves to slaughter were much above 1926, many of them being good quality beef calves.

The number of cattle on feed in the Corn Belt on January 1, 1928, was estimated at 6 per cent below January 1, 1927, and the decrease in the Western States at 16 per cent. Nebraska, Kansas, the Lancaster district of Pennsylvania and Maryland are the only areas in which there were more cattle on feed this year than last. Average weights of cattle on feed are the lightest for many years.

It seems probable that the industry is now at the low point of the present production cycle, and prevailing conditions are similar in many respects to those existing at the beginning of 1913. These cycles usually extend over a period of 14 to 16 years. Previous low points in production occurred in 1898 and 1912.

It is expected, therefore, that from now on the trend of production will be gradually upward for several years to come. Present relatively small numbers of cattle in the country, together with the relatively high prices which have prevailed for several months past, are expected to provide a strong incentive for cattlemen to restock farms and ranges and increase their herds.

The first clear intimation of reduced basic supplies consisted of the sharp reduction in marketings of range cattle during the fall of 1926. The situation was obscured somewhat by heavy marketings of fed cattle during the first half of 1927, but a marked reduction in market receipts after the middle of 1927 confirmed the earlier judgment beyond any doubt. This trend toward lighter marketing and slaughter is expected to continue throughout 1928 and result in a 6 to 10 per cent reduction in the number of cattle and calves marketed during the year.

With a plentiful supply of corn in most of the States which have the bulk of the cattle on feed, and in view of the relatively high level of prices, there will probably be a tendency to hold cattle on feed somewhat longer than normally. This may result in bunching of market receipts late in the spring. This movement will probably not be sufficiently pronounced to depress prices seriously.

Supplies of finished cattle next summer will probably be slightly greater than a year ago. Presumably market supplies of stocker and feeder cattle in the fall of 1928 will be still smaller than during the corresponding period of 1927. This situation is expected to prevail despite the fact that imports of stocker and feeder cattle from Canada may show some increase. With no immediate prospects of being able to compete successfully with Argentine cattle and beef in the United Kingdom, Canada is likely to continue to dispose of most of her surplus production in the United States.

Imports of Canadian cattle to the United States from January to November, 1927, amounted to 181,000, compared with 81,000 a year earlier. Imports of calves from Canada during the same period amounted to 75,000 compared with 61,000 in 1926, and imports of beef increased from 15,000,000 pounds in 1926 to 45,274,000 pounds in 1927. These imports were the equivalent of only about 2 per cent of all cattle slaughtered in the United States during this period. It does not seem probable, therefore, that supplies from that source will be sufficient to affect materially the American cattle and beef markets.

Average weights of feeder cattle last fall were lighter than in 1926 and materially lighter than in 1925. For that reason it seems probable that average weights of fed cattle marketed in 1928 will be lower than a year earlier in spite of the expected trend toward longer feeding. Fed cattle marketed during the latter half of 1928 are likely to average higher in grade than last year.

With smaller numbers of cattle coming to market, average weights lighter and no prospect of serious competition from foreign sources, the quantity of beef available for domestic consumption is expected to be definitely smaller than in 1927.

The demand for beef in 1928 may be less than in 1927, because the relatively high price of beef compared with pork and lamb may tend to turn consumers to the cheaper meats. However, during the last half of 1927, when business was declining, beef prices continued to advance. If, as now seems possible, business conditions improve in 1928, there may be little or no decrease in the demand for beef.

If the demand for beef in 1928 falls below that of 1927, it is not likely that such reduction will offset the expected decrease in market supplies. Average cattle prices, therefore, are expected to be considerably higher in 1928 than in 1927, although the peak prices of 1927 may not be exceeded.

If the present position of the industry in the production cycle has been properly charted, and if history repeats itself, cattle prices are expected to be unusually steady this year, with seasonal fluctuations less marked than usual. The usual spring decline on better grades will probably occur later than normally. Summer prices of slaughter cattle are expected to average somewhat higher than in 1927, and it is anticipated that the fall market for such cattle will be well sustained at a relatively high level. Stocker and feeder prices in the fall of 1928 will probably average considerably higher than in 1927.

If business conditions during the last half of 1928 show improvement over the latter half of 1927, and supplies of hogs show a tendency to decrease, cattle will be in an unusually strong position, and any further decrease in market supplies may be expected to still further strengthen prices.

From the long-time viewpoint the cattle situation appears favorable. Since any increase in cattle numbers will not materially increase market supplies until late in 1930 or in 1931, cattle prices are expected to remain on a fairly high level during the next three or four years.

HOGS

The swine industry is passing through the low period of a hog price cycle as a result of expansion in production stimulated by the high hog prices and the favorable relation between corn and hog prices prevailing in 1925 and 1926. With an increase of 6 to 8 per cent in pigs raised in 1927, over those raised in 1926, no reduction in seasonal hog supplies for slaughter is indicated until next fall and winter. Some improvement in domestic demand for pork is anticipated, but information regarding European hog production indicates that export demand during the greater part of 1928 will be even lower than in 1927. With supply and demand conditions as indicated, no material change in hog prices other than average seasonal fluctuations seems likely until next fall and winter when market supplies will probably be affected by curtailed production resulting from the present unsatisfactory price situation.

The combined spring and fall pig crop of 1927, as indicated by the pig surveys, was about 5 per cent larger for the Corn Belt and 6 per cent larger for the United States, than was the crop of 1926. Losses from disease were considerably less than in 1926 as there was no serious epidemic of cholera like that which took an unusually heavy toll in 1926. Estimated number of hogs on January 1, 1928, was 58,969,000 head compared with the revised estimate of 54,408,000 on January 1, 1927.

Information regarding hog supplies for the current season November 1, 1927, to May 31, 1928, indicates that slaughterings will be from 7 to 10 per cent larger

than a year earlier. Inspected slaughter for the first two months of this season was 6.9 per cent larger than in the previous year. Most of the increase in the spring pig crop of 1927 in the Corn Belt occurred in the States east of the Mississippi River where corn production in 1927 was much below normal. The scarcity of corn in this section is causing the early marketing of these hogs and at light weights. In the States west of the Missouri River, a near-record crop of corn was raised in 1927 and hog production was below the average of recent years. In these States the corn-hog ratio, although less favorable for feeding than last year, is much above the usual differential compared with the eastern Corn Belt and there is a marked tendency to feed longer and to delay marketings. Hog receipts at markets east of the Mississippi in November and December, 1927, were well above those of 1926, but the receipts at Missouri River markets combined, were the lowest in many years.

An indicated increase of 11 per cent in the fall pig crop of 1927 over that of 1926, as shown by the December survey, points to slaughter supplies next summer and fall somewhat larger than in the corresponding period of 1927. The December, 1927, survey indicates a decrease of about 6 per cent in the number of sows to farrow in the Corn Belt in the spring of 1928 compared with the spring of 1927. The present low level of hog prices compared with the last three years indicates even a larger reduction. With average weather conditions, the spring pig crop of 1928 will probably be about 10 per cent smaller than that of 1927 in this region, which would mean a substantial reduction in market supplies in the winter of 1928-29.

Present supplies of corn are ample for hog feeding in the western Corn Belt but a shortage exists in the eastern belt, where the crop was the second smallest in many years. With corn prices approximately 20 per cent higher and hog prices 30 per cent lower than last year the corn-hog ratio is generally unfavorable for hog feeding. As no decrease in corn acreage is likely in 1928 an average yield would insure a supply of corn for feeding next fall and winter at prices which would make feeding profitable.

With increased slaughter, smaller exports, larger storage supplies, and prices of hogs and hog products much lower than in 1926 domestic consumption of hog products in the summer of 1927 was 15 per cent larger than a year earlier. A slightly larger-than-average seasonal drop in prices from October to December resulted in the hog price level at the end of 1927 being 30 per cent lower than it was a year earlier but per capita consumption was only about 10 per cent larger. The general downward trend in the purchasing power of consumers in the last half of 1927 may have been partly responsible for the low level of wholesale and retail pork-product prices. To the end of January, 1928, these prevailing low prices had caused no increase in consumer demand, which is now on a much lower level than a year ago.

It seems likely that general business activity during the first half of 1928 will increase from its present relatively low level, but it is doubtful whether the year as a whole will show as high a level of industrial prosperity as during 1926 and the first half of 1927. However, the domestic demand for hogs will probably be more benefited by the consequences of changes in retail prices than by improvements in the business situation. Readjustments in retail prices of pork products, in line with the changes in wholesale prices, have recently become marked, and beef prices have shown increasing readjustment of retail prices to higher wholesale prices. These changes will tend to turn consumer demand to pork products and help to bring about a higher level of prices for both hogs and wholesale products.

Lard stocks are somewhat large compared with recent years, but a generally improved condition in the oils and fats markets due to a shorter cotton crop and consequently higher level of cottonseed-oil prices should help to maintain the demand for lard as compared with a year ago.

Production of hogs in Great Britain and on the Continent increased greatly in 1927 with resulting much lower prices for hog products in European markets, and export demand for American pork products slumped sharply in 1927. Indications are that export demand during the coming spring and summer will be even lower than last year, but that during the winter and spring of 1928-29 it will show some recovery to about the comparatively low level of the first half of 1927.

No change is likely in the British embargo on fresh pork, which had the effect of causing a shift of Dutch production from fresh pork to cured products, with resulting greater competition for American cured products in the English market.

Numbers of brood sows in the principal foreign countries were 20 per cent larger in 1927 than the materially increased number in 1926 and will further increase foreign supplies this winter and so reduce the demand for American products. Sows in Germany in December, 1927, show only a slight decrease from a year earlier, but the hog and feed price ratio in foreign countries was so unfavorable in 1927 that it is likely that in 1928 numbers of brood sows will be sharply reduced, possibly to about what they were in 1926, as hog producers in foreign countries respond to changes in the relation of hog prices to feed prices in a manner similar to the response in this country. This decrease in sows would lead to decreased production of pigs in 1928 and some improvement in our export demand in the winter of 1928-29.

No changes are anticipated in purchasing power in our principal foreign markets which will materially affect their demand for hogs. With the greater competition from foreign production, however, and the consequent lower foreign demand for our cured pork, and to a lesser extent for lard, it is likely that exports of hog products will be even lower in 1928 than in 1927.

Supplies of hogs during the first five months of 1928 will probably be somewhat above those of the same period last season, with slaughtering perhaps 8 to 12 per cent higher than a year ago. Domestic demand is likely to strengthen, but foreign demand will probably continue to weaken, so no material improvement in the demand situation as a whole is expected.

Present supply and demand conditions, with large late shipments of heavy hogs from the western Corn Belt, indicate that the spring advance in prices is likely to be less marked than usual. It is possible, however, in view of the present low level of hog and pork product prices, that any marked improvement in domestic demand in the next few months, due to improved business and a shift to pork consumption, might result in a rather marked price increase.

Supplies next summer will probably be somewhat larger than last summer, but with continued low demand only a moderate strengthening in prices from those of the current winter can be expected, with summer and fall prices probably averaging lower than a year earlier.

If farmers carry out the reduction in the next spring pig crop that is indicated by the fall survey, supplies next winter will be substantially reduced. At the same time somewhat reduced supplies in Europe may improve foreign demand to a slight extent. While prices will be on the upward swing of the cycle, the upward trend will be just starting and no sharp advances seem likely before the summer of 1929, depending on the next corn crop and subsequent changes in numbers of hogs.

The inspected slaughter of hogs in 1927 was almost 3,000,000 head, or 7 per cent larger than in 1926. The cost of these hogs to packers was \$170,000,000 or 14 per cent less than in 1926, the average cost per 100 pounds in 1927 being \$10.03 and in 1926, \$12.47. Slaughter in 1926 was the smallest in six years and the total cost of hogs slaughtered was the largest. Total cost in 1928 will be below that of 1927. Present hog production is too large to bring largest net returns to producers. The situation of the Corn Belt producer is also weakened by the marked increase in hog production in other areas, especially in the South, which is increasing the contribution of these areas to commercial supplies and reducing the demand for products from the outside. A reduction in sows farrowing in the Corn Belt of at least 15 per cent below 1927 is needed to bring hog production back to a basis of returns comparable to 1925 and 1926. Farmers should not carry reduction too far, however, since stable production at stable prices is more desirable than extreme shifts in production which result in wide price swings.

DAIRY PRODUCTS

The position of the dairy industry appears on the whole to be fully as strong as it was a year ago. There are as yet no indications of any material expansion in dairy production in the near future. In comparison with a year ago there has been no increase in the number of cows being milked, no significant increase in the number of heifer calves being reared, and no material change in the disposal of old cows.

The relatively higher prices of feed grains and other concentrates this year as compared with last year will tend to decrease milk production during the present feeding season, but this may be offset in a measure by the abundance and cheapness of legume hays. Probabilities are that during the coming grass season the record pasture conditions of last summer and fall will not be repeated.

Domestic demand is likely to be fully maintained during the coming year. The foreign situation on the other hand is such that price depression abroad is resulting in increasing imports into our markets, with the prospect that the increasing foreign supplies will be further drawn upon to supplement domestic production.

The estimated number of yearling heifers being kept for milk on farms January 1, 1928, was 4,175,000, an increase of 127,000 head or 3.1 per cent over the number on hand a year ago. The estimated number of heifer calves saved for milk shows an increase of 217,000 head, or 4.6 per cent. Although these changes indicate a slight tendency toward increasing the size of dairy herds, the increases are small in comparison with the total number of milk cows on farms, estimated at about 22,000,000. On the whole, it seems probable that the increased number of heifer calves saved in 1927 is only sufficient to cause an increase of about 1 or 2 per cent in the number of milk cows in 1930. It is possible, however, to increase the herd by retaining old cows beyond the usual age although this tends to be prevented by the present favorable prices of beef.

Although the numbers of dairy cows slaughtered in 1927, as a result of tuberculosis eradication campaigns may have had some significance locally in certain districts, the numbers were not sufficiently great to be regarded as of particular importance from the standpoint of total milk production, being only about 1 per cent of the total estimated milk cow population.

Total butter production has shown a continuous upward trend since 1920; it was very pronounced until 1924, and has been considerably less marked since then. Creamery butter production during 1927 showed only a slight increase despite the unusually favorable pasture season. Cheese production, which had shown a strong upward trend from 1920 through 1925, turned downward in 1926 and 1927 with declines of 3 and 6 per cent respectively. Condensed and evaporated milk production continued its upward trend with a heavy increase in 1927. Production of fluid milk in most areas averaged slightly higher in 1927 than in 1926, and the percentage used for fluid purposes continued to increase.

As a whole, milk production in 1927 was but little higher than in 1926, but a larger proportion was devoted to the more valuable uses.

During the summer of 1927, increased production and reduced movement into consumptive channels caused storage stocks of butter to reach 163,700,000 pounds on September 1, a record level, and stocks of condensed and evaporated milk to become heavier than usual. Most of the extra accumulation of butter has now been worked into consumption without material effect on price, however, and the stocks of concentrated milk have not affected markets unfavorably. Cheese stocks on January 1, on the contrary, were 12 per cent lower than a year earlier, reflecting the reduced production.

In addition to domestic production, dairy products equivalent to almost a billion pounds of milk were imported, in spite of the prevailing tariffs.

With growing population and with increased consumption of dairy products, significant changes are taking place in dairy regions. In Wisconsin enlarged demands for fluid milk and sweet cream explain much of the recent decline in cheese production in that State. Increased demand for sweet cream in many eastern consuming centers has led to the growing long-distance shipment of this commodity, cutting into production of manufactured products. In eastern producing regions the upward trend in the proportion used in fluid form is likely to continue during 1928. In addition to these shifts, butter and cheese production is being expanded in some of the newer dairy regions, particularly in certain intermountain States. In the South several new condenseries have been established in regions where there is a growing realization of the possibilities in dairying. The general tendency toward higher valued products in the older dairy regions and the opening up of new territories, reflect the inability of dairy product manufacturers to compete in price with the users of fluid milk. This has resulted in the forcing backward of the "milk frontier."

The United States will probably continue to import large quantities of cheese, fresh cream, and milk, and to import some butter. Our exports of condensed and evaporated milk will probably continue to decline, owing to foreign competition in the production of condensed and evaporated milk and to the protected position of the producers of other dairy products.

Since production and prices of dairy products in foreign countries tend to affect the price level to which our domestic prices can rise, producers should

watch developments as to foreign production and markets. Foreign dairy production has recovered from the effects of the war and continues to increase. The rate of increase, however, appears to have been checked in the last two years, with supplies of butter and cheese in the principal foreign markets in 1927 practically no greater than in 1926, and only slightly greater than in 1925. The checking of supplies has been due in part, however, to temporary conditions such as drought in Australia. Present indications are that foreign dairy production next year will be maintained and may be increased. A favorable season in Australia such as in 1920-21 and 1924-25, together with favorable conditions in other important producing countries, would probably result in a considerable increase in supplies.

The ability of foreign markets to absorb the supply of the surplus-producing countries will probably be no greater in 1928 than in 1927. With no increase in the purchasing power in Great Britain, which is the most important foreign market, any increase in supplies would probably result in lowering foreign market prices and increasing shipments to this country. In Continental Europe at the present time there is not a potential market for increased supplies such as that which developed in Germany in 1924 and 1925. Germany is now producing about 85 per cent, on a milk equivalent basis, of the dairy produce consumed within that country. With this recovery in production and with no prospect of further improvement in purchasing power of German consumers no relief can be expected from that source. Improvement in economic conditions in Italy and France will probably have little if any effect upon the demand for foreign butter.

With respect to probable imports of cheese, fresh cream, and milk, it may be said that conditions appear favorable for further increase in the imports from Canada.

During recent years the total domestic consumption of fluid milk, butter, cheese and concentrated milk has been increasing. In 1927, however, there was apparently not the usual increase. The purchasing power of urban consumers declined during 1927, until at the end of the year it was materially below the early part of the year, which partially explains the slowing up of the increase in consumption of butter and cheese; consumption of fluid milk, however, continued its previous increase. The differences in price between high-grade and lower grades of creamery butter has been greater this year than for several years previous. This undoubtedly reflects in some measure the increased demand for the better grades of creamery butter.

Present indications are that business conditions will be on the upward trend through the first half of 1928, with possibly a seasonal dip in mid-year. There is apparently a long-time upward trend in the demand for dairy products. Farmers in most fluid-milk areas received moderately higher prices for their milk in 1927 than in 1926. This fact was due to the higher prices received for milk used for fluid purposes and for milk which went into surplus uses and to the greater percentage of the total production used for fluid consumption.

As predicted in the 1927 Outlook Report, the number of dairy cows has not been materially increased, and a rather favorable spread between the cost of feedstuffs and the price of dairy products prevailed through 1927. Present indications are that similar conditions will continue for another year or two and perhaps even longer. Roughages, especially legume hays, are unusually abundant this winter in the great butter-producing area of the mid-West, and silage and feed grains are as plentiful as they were a year ago. The increased supply of legume hays will tend to increase production during the winter feeding season, offsetting the usual tendency of higher prices of concentrates to reduce production. In the fluid-milk areas where the dairymen purchase a considerable portion of their concentrated feeds, the spread between feed costs and the price of milk may not be so favorable because of the relatively high cost of concentrates.

Beef cattle are in demand, the beef-producing sections are more prosperous than they have been and, with the exception of some of the irrigated sections, the increase of dairying in the beef-producing sections will probably be slower than heretofore. The number of cows slaughtered has run fairly heavy during recent months compared with last year, and with milk cows showing unexpected value for beef purposes, there is little reason to expect any marked tendency to increase dairy herds by holding the old cows, except in some of the Eastern States where the scarcity of cows has become rather acute. There has been a

sharp increase in the average price of milk cows in all parts of the country, but the increase seems to be little more than the increase in the beef value of the cows.

Summarizing the prospective supply situation for the current year, there seems nothing to indicate any increase in milk production except as the result of the general improvement in the quality of cows, methods of management, and intensity of feeding. These together will hardly increase production more than is needed for the natural increase in population. A markedly wider spread between the cost of feed and the price of dairy products would no doubt stimulate production, but there seems no particular reason to expect the present spread to be widened by any marked decrease in the price of feed, and in view of the foreign situation a materially higher price for dairy products as a whole is not expected. Although the ratio of the price of feed to the price of dairy products might easily become somewhat less favorable than at present, dairy producers can reasonably look forward to only a very gradual expansion in dairy production during the next two years and to a continuation of conditions similar to those which now prevail.

The supplies of beef cattle are low, and there is good reason to expect rather favorable prices to continue for some time. This will afford dairymen an exceptionally favorable opportunity to dispose of their old cows and low producers at prices high enough to contribute largely toward covering the cost of raising young animals to replace them. Dairymen who have cows of good productive ability, therefore, will probably find it profitable to raise more than the usual number of calves in 1928. This is particularly true of those farmers who have good reserves of hay. Prices of milk cows on January 1 averaged about 24 per cent higher than a year ago. Expansion of production should take place only at about the rate of the increase in the demand for dairy products in the United States. It should be borne in mind that the tendency to increase dairy production evidenced by last year's increase in number of heifer calves kept will not be realized in increased production until these calves have begun to produce, and if, in the meantime, the herds are increased too rapidly the result in about five years will be overproduction and depressed prices.

The generally favorable outlook for dairying seems to be shared by practically all sections of the country, and all sections show moderate increases in the numbers of heifers and calves being raised for milch cows.

In the northeast the percentage of the production needed to meet urban demands for fluid milk and cream has been steadily increasing and will probably continue to increase for some time to come. Although conditions have been improving gradually for some time there has been no corresponding increase in production principally because of the failure of the dairymen to raise heifer calves during the last few years when milk prices were low. Recently interest in dairying has been renewed and there has been an increase in the numbers of calves saved, but on January 1, the total young stock on hand seemed no more than sufficient for normal replacements.

In the central butter and cheese regions conditions seem likely to continue substantially as at present. In the eastern part of this region the shipment of fluid milk and cream seems likely to increase and those localities which are prepared to furnish a large and uniform volume of high-quality product are likely to receive the benefits of somewhat higher prices. The continued increase in butter production in the western portion of the Corn Belt does not seem likely to cause an undue increase in United States butter production.

Increasing consumption of dairy products and development of more efficient methods of production are aiding in the development of the dairy industry in the South. Indications are that there will be a fairly steady expansion, with satisfactory returns to areas which are growing into dairying. Some evidence of the expansion which has already taken place is to be found in the establishment of several condenseries in Southern States.

Dairy production on the Pacific coast is not keeping pace with demand, with the result that the coast is reaching back into the mountain country for its supplies. The upward trend in demand and the rapid development of the industry in this region seems likely to continue for some time.

SHEEP AND WOOL

Sheep numbers continue to increase and prospects indicate a lamb crop for 1928 somewhat larger than a year ago. Consumer demand for lamb is not likely to improve sufficiently to offset the prospective increase in production.

With wool stocks in this country light and with a strong foreign market the outlook for wool appears favorable.

LAMBS

The number of sheep and lambs in the United States continued to increase during 1927, and on January 1, 1928, the number was estimated at 44,545,000 head. This number was 2,699,000 head or 6.5 per cent larger than the revised estimate of numbers January 1, 1927, and the largest number in 16 years.

The lamb crop of 1927 was estimated as about the same size as that of 1926, with a considerable decrease in western lambs, offset largely by an increase in natives. The slaughter of lambs from last year's crop to the end of December was about the same as the slaughter of 1926 lambs up to the end of December, 1926. The death loss of sheep in 1927 was larger than in 1926 because of severe spring storms in the Northern Rocky Mountain States and unfavorable spring weather in the far Northwestern States. Despite the heavy slaughter of lambs in 1926 and 1927 there was a material increase in flocks both years.

The upward tendency in sheep numbers in 1927 was evident in all the principal sheep-producing areas but it was most prominent in the Southwestern States, with Texas showing the largest increase of all States.

The number of sheep and lambs on feed for market January 1 was estimated at about 450,000 head or 10 per cent greater this year than on January 1, 1927, and 100,000 head greater than on January 1, 1926. The increase this year was due mostly to increases in northern Colorado and western Nebraska, where numbers fed last year were much below normal. All of the Corn Belt States east of the Missouri River had fewer lambs on feed this year than last with the largest decrease in the States east of the Mississippi.

The market supply of fed lambs during the first five months of 1928 will be greater than during the same period last year, and about the same as in 1926. Average weights, because of a greater proportion of heavy lambs, will be larger than last year. A larger proportion of the Colorado and western Nebraska fed lambs will be marketed in January and February this year than is normally true in these months, with a smaller proportion during March and April.

Present indications are that the 1928 crop of early California lambs is larger than last year's and the largest on record for the State. Weather and feed conditions have been very favorable for the growth of these lambs and a heavy movement to eastern markets in April and May is expected. A spring movement of grass wethers and yearlings from Texas, as large as, or larger than, the heavy spring movement in 1927, also is indicated. Apparently the supply of all sheep and lambs for slaughter during the first five months of 1928 will be considerably larger than last year and the largest for these months since 1914.

The supply of lambs during the last seven months of 1928 will depend largely upon the size of the lamb crop, but if weather conditions are not unfavorable over the western States and the Corn Belt, it seems probable that the 1928 lamb crop will be larger than that of 1927 and that the slaughter of sheep and lambs during these months of 1928 will exceed that of 1927.

During the last half of 1927 prices of dressed lamb averaged about 7 per cent lower than in 1926 with only about 4 per cent increase in consumption, indicating a slackening in demand. This was further borne out by the fact that choice, light, and handy-weight lamb carcasses at New York averaged \$1.37, or 5 per cent lower than for this period in 1926. Slaughter lambs this winter are heavier in weight than a year earlier, and medium and heavy weight carcasses at New York in December sold \$2.50 or more under light and handy weights as compared with a differential of \$1.25 a year earlier. This also partly accounts for the lower average price of dressed lamb this winter.

Part of the slackening in demand, and the lower dressed-lamb prices, especially during the past few months, may have been due to the dullness in business activity and to the reduced purchasing power of consumers. The effect of higher beef and veal prices and increasing consuming population were not enough to offset larger lamb supplies and lower business.

Present conditions indicate that beef prices will continue to be maintained at a relatively high level through 1928 and that general business conditions and the purchasing power of consumers during 1928 are likely to show some improvement from the present level, which should tend to improve the demand for lamb.

Market prices of live lambs during the last half of 1927 averaged about the same or slightly higher than a year earlier. The relatively high level through October to the middle of December was largely caused by reduced supplies of

feeder lambs at central markets and the strong feeder demand, as feeder lambs sold at a rather wide premium over fat lambs. Lamb pelts were also higher than they were a year earlier. Near the middle of December increased supplies of killing lambs, accompanied by an apparent slackening in feeder demand, caused a rather sharp break in prices of all lambs, with the greatest decline on heavy weights.

The increased numbers of lambs on feed and the increased proportion of heavy lambs as compared with a year ago indicate a considerable increase in marketings during February and March as compared with a year ago. Prices during the next few months will depend to considerable extent on the distribution of marketings, both geographically and as to time.

With increased supplies of lambs from California and from other spring-lamb areas indicated, it is probable that the spring advance in prices will be less marked than usual.

Given average weather conditions, there will be more lambs to market during the last half of 1928 than a year earlier. Consumer demand may show some improvement next fall and winter over present levels, but with the probability of a lower feeder demand than a year earlier, the increase in consumer demand is not likely to be sufficient to offset the prospective increase in production.

WOOL

The outlook for wool appears favorable. Supplies abroad are light, foreign markets continue strong, domestic prices of wool are below the tariff differential from foreign prices, and no further recession in general business conditions seems probable in the near future.

The average price received by producers in the United States was 30.7 cents for the year as compared with 32.5 cents in 1926 and 38.5 cents in 1925. Domestic prices showed considerable strength during the last half of 1927, with an upward trend.

The absence of violent fluctuations throughout the last year and the satisfactory clearance of manufactured goods indicate that the wool textile manufacturing industry has regained confidence in the stability of wool prices.

American purchases abroad have been light. Stocks of wool held by reporting dealers and manufacturers in the United States on September 30, 1927, were 7 per cent greater for domestic and 20 per cent smaller for foreign wool than on September 30, 1926, with a greater decrease in combing and clothing wool because of the increased stocks of carpet wool. Stocks of combing and clothing wool in bonded warehouses in the United States on October 31, 1927, were 53,570,000 pounds, as compared with 83,377,000 on October 31, 1926.

Imports of combing and clothing wool during the first 11 months of 1927 were 62 million pounds below the same period in 1926 but consumption by reporting mills was 31 million pounds greater.

Foreign markets continued active throughout the year with keen competition at practically all the Colonial and London sales, and prices for practically all grades advanced throughout the year. Notwithstanding the lack of active competition from the United Kingdom and the United States last year, other important wool consuming countries readily absorbed the quantities offered at sale points although wool prices constantly advanced.

Estimates of wool production for the 1927-28 season in nine important producing countries, which usually produce from 65 to 75 per cent of the world's clip, indicate a decrease of about 4 per cent from last season. Sheep numbers in 18 countries, which in pre-war times produced about one-half of the world's sheep, at the beginning of or in the summer of 1927 were 361,000,000 head or 3 per cent over 1926 and 6 per cent over pre-war. The estimated number of breeding ewes for six European countries was 31,350,000 for 1927 as compared with 30,728,000 for 1926 and for the United States the number of breeding ewes one year old and over was 27,658,000 in 1927 and 29,574,000 in 1928. The increase in breeding ewes indicates an increase in those countries in 1928, but lambing in New South Wales, in Australia, and in Argentina (which countries support about one-seventh of the world's sheep) has not been very satisfactory, according to reports. The preliminary estimate of sheep numbers in Australia on January 1, 1927, is slightly below the revised 1926 figures, and a still further reduction in 1928 is not improbable because of drought in Queensland and New South Wales during most of 1927.

World wool production during the last four years has been on the upward swing of the cycle, but the per capita production for the period 1923-1926 was less than for the pre-war period 1909-1913, when total production was at the peak of that cycle. Prices of the better grades of colonial wools at London have advanced relatively more than have the lower grades and have averaged higher than the index of average wholesale prices as compared with the pre-war average, and the keenest demand has therefore been felt for the finer grades.

All statistical information indicates that wool is in a firm position. It must be remembered, however, that wool prices could be influenced by factors which can not be measured statistically.

Lamb production in this country is trending upward and approaching the peak of the cycle. The outlook for the next few years indicates the need of considerable caution in regard to further expansion in the production of market lambs. Since 1922 the number of sheep and lambs has shown an average increase of around a million heads per year. With favorable weather conditions a very large lamb crop is not improbable, and should such a crop materialize the situation might be further aggravated by the marketing of ewe lambs ordinarily retained for flock replacement or expansion and by liquidation of flocks. The outlook does not appear so unfavorable for sheep producers who depend upon wool for the major portion of their income as for those who produce market lambs.

The trend of production to heavy feeder lambs has made it difficult for lamb feeders to secure light feeder lambs suitable for finishing for the late winter and spring market, especially during years of good range conditions. Therefore it seems that producers should give serious consideration to the production of lighter weight feeder lambs. It also appears that consideration should be given to the production of higher quality wools in areas especially adapted to that enterprise.

MOHAIR

The immediate outlook for the mohair producers of the United States is much better than it was last year, but looking further ahead, producers should be careful not to expand production more rapidly than domestic demand requires. The outstanding features of the present situation, as compared with last year, are:

- (1) A great reduction in imports of foreign mohair.
- (2) A great reduction in stocks of foreign mohair in bond at customs warehouses.
- (3) A large increase in the foreign consumption of mohair.

Consumption of mohair in the United States is said to be continuing at a fairly steady rate, though at present somewhat below the level of a year ago. Imports for consumption in the first three quarters of the year amounted to 4,172,000 pounds, compared with 6,715,000 pounds for the corresponding period of 1926. The bulk of our domestic clip has been consumed, leaving only a moderate carry over of domestic mohair.

The recovery of foreign demand for mohair has been the most important factor in changing the situation. This increase in foreign demand has not only withheld the bulk of the mohair production of South Africa and Turkey from our markets but has withdrawn from our customs warehouses some of the stocks that had accumulated here at the end of last year. Receipts of foreign mohair into the United States from abroad in the first 11 months of the year amounted to only 2,470,000 pounds, as compared with 9,371,000 for the same period in 1926. Stocks remaining in bonded customs warehouses in the United States on January 1, 1927, amounted to 10,300,000, but these stocks have been reduced to less than 5,000,000 pounds by withdrawals for consumption and reshipments to Europe.

There has been a marked recovery in the mohair industry of Great Britain. In the first 11 months of 1927 imports for consumption into that country amounted to over 17 million pounds, as compared with only a little more than 5 million pounds in 1926. In the same period exports of mohair yarn amounted to over 8 million pounds, as compared with less than 6 millions for the same period in 1926. The increased export business appears to have been due largely to the recovery of business activity in Germany. At present there are no indications that the foreign demand for mohair will not continue at approximately the present levels.

Foreign supplies of mohair for next year may be no larger than for the past year. The carry over of mohair in Turkey appears to be less—about 2,400,000 pounds as compared with 4 millions last year—and the carry over in South Africa was reduced to a minimum. Production seems to be increasing in Turkey but declining in the Union of South Africa. It is unofficially estimated that during the last five years, mohair production in Turkey has increased from about 6,000,000 to about 7,500,000 pounds, while the production in the Union of South Africa has been reduced from about 15,600,000 to 11,000,000 pounds.

The prices of both domestic and foreign mohair, after reaching a low level last spring, have risen. Owing to the tariff, good combing domestic is more than 30 cents above fair average Turkish and summer first cape mohair. For December, good combing domestic averaged 78 cents compared with 45 cents for fair average Turkish mohair in bond. Judging from the outlook as to business conditions in the United States, and in particular with respect to the automobile industry, the demand for mohair in the United States in 1928 should be equal to or greater than last year. It is possible that competition for lower costs in the automobile industry may lead to some substitution of cheaper materials, but this is not likely to develop to the extent of materially affecting the demand for mohair in the immediate future. For the finer qualities especially, a good demand probably will continue through the year.

HORSES AND MULES

Higher farm income in the South and in the Great Plains this season has brought about an increased demand for horses and mules, and prices for the first half of 1928 are likely to be higher than a year ago. Present numbers of colts indicate further decreases in the horse and mule population for several years to come. Eventually, this reduction will reach a point where scarcity will cause prices to rise to higher levels. Increased breeding of work animals is advisable as a side line in areas of cheap pasture, east of the Rocky Mountains.

The increase in the January 1, 1928, farm prices of both horses and mules over those of a year ago indicates that the price decline of the last eight years has been checked, and possibly that the upswing of the price cycle has begun. Price increases are greatest in the Southern States and in the Great Plains from Oklahoma to South Dakota where farm purchasing power is higher than a year ago, and in the Appalachian States from Tennessee to Maine, including Ohio and New York, where the substitution of mechanical power for horse power is, generally, more difficult than in the States which have a less rolling and rugged topography.

During the spring and summer of 1927 the monthly farm prices of horses and mules were lower than during 1926, but during the last five months of the year, mule prices failed to make the same seasonal decline as in 1926; consequently October prices were at the same level as the year before and the November and December prices have been appreciably higher.

There has been a heavy fall movement of horses and mules into the South. Market receipts of horses and mules at the stockyards of Fort Worth, Oklahoma City, Memphis, Montgomery, and Atlanta for October and November, 1927, were 46,670 head, as compared with 10,385 last year, 36,670 in 1925, 37,764 in 1924, and 52,833 in 1923.

The increased Southern demand at higher prices is probably reflected to some extent in the States from which the mule shipments originate—Tennessee, Kentucky, Missouri, Oklahoma, Kansas, and Nebraska. Little if any price change was shown for either horses or mules in the Central Corn Belt States of Iowa, Illinois, and Indiana, and in the Far Western States.

The total numbers of horses and mules have declined about 4 per cent in each of the last two years and have decreased one-fifth since January, 1920. The number of colts foaled has become well stabilized during the last three years at about 50 per cent of 1919. Numbers of colts in current years are about sufficient to maintain horse and mule numbers of approximately 11,000,000, as compared with 20,107,000 on farms January 1, 1928, 22,214,000 in 1925, and 25,323,000 in 1920.

The demand for work animals both on the farm and in the cities has been decreasing rapidly with the increasing use of automobiles, trucks, and tractors. It is difficult to determine the extent to which this substitution of mechanical

power for horse power can be carried. The tendency in the cities seems to be to replace worn-out work animals with motor trucks rather than with young horses from the farm. The development of tractors that are better adapted for a greater diversity of farm work, and the motor cultivator, are making possible further substitution than was considered practicable a few years ago. The increased mileage of improved roads is bringing about an increased use of motor trucks in the marketing of farm products in the truck and dairy regions of the East, in the Great Plains wheat area, and in intensive livestock districts of the Middle West, and especially in the areas adjoining the large cities and towns of the country. The combine is continuing to displace work animals in the harvesting of wheat on the Great Plains and in the winter wheat sections of the Corn Belt.

The lower purchasing power and decreased crop acreages in the Cotton Belt during 1927 were reflected in a reduced demand as indicated by in-shipments of horses and mules, and in lower farm prices. With better purchasing power prevailing in these States during the 1927-1928 season, the demand for mules has already increased, as shown by increased in-shipments and higher prices. In the North Atlantic States and in Michigan, where the average age of work animals is relatively high, prices have already strengthened.

The present relatively low prices for horses, which are about 53 per cent of the 1910-1914 level, as compared with 152 per cent for all commodities at wholesale, gives little incentive to the raising of colts, especially since advancing cattle prices offer an attractive alternative. Horse prices have been at this low level for 10 or 12 years, largely because the available supply was in excess of actual needs with the increased use of motor power.

Eventually the number of work animals will be reduced to a point where scarcity will cause prices to rise. If horse and mule prices continue to advance throughout 1928, it will probably indicate the beginning of the upswing in prices that may continue for 5 or 10 years.

In any event, farmers can not expect to replace their work stock a few years from now at the present low level of horse prices. Increased breeding of work animals as a side line is advisable in States east of the Rocky Mountains, in localities where cheap roughages and pastures are available.

POULTRY AND EGGS

The number of laying hens and pullets on January 1, 1928, probably was not much different from that of January 1, 1927. Feed grains and mill feeds, which enter the ordinary rations used by poultrymen and which constitute the principal items of cost in poultry farming, will probably average somewhat higher in price during the first six months of the year. Present conditions indicate that egg production will be about the same in 1928 as in 1927. However, the low storage holdings of eggs on January 1, and the favorable outcome of the 1927 storage season, are factors which should result in better egg prices during the coming year.

The holdings of dressed poultry on January 1, 1928, were considerably lighter than on the corresponding date in 1927. With supplies lighter and with the prospective demand fully as strong as during the year just closed, the prospects of a higher level of prices for the principal classes of poultry, both dressed and alive, appear favorable, at least during the first half of the year.

The year just closed was one of the leanest since the World War for most egg producers. On the other hand, it was a good year for most storage operators. The very low egg prices which prevailed during the storage season permitted operators to show profitable margins on the storage deal in contrast to the heavy losses of the two previous years. Besides getting the lowest prices for their eggs since the World War, producers have had other difficulties to contend with. Mortality in the laying flocks was heavier than usual in some specialized egg-producing sections. Brooding and rearing was difficult on account of the damp weather in some sections. Feed prices remained high in relation to egg prices during most of the year. The receipts at the principal markets during the first four months of the year were the greatest in the history of the industry. For this period the receipts at the four leading markets were 19 per cent greater than in 1926, but receipts for the year, as a whole, were only about 4 per cent greater.

The peak holdings of shell eggs on August 1, were 10,700,000 cases, about 900,000 cases greater than on that date of the previous year, but in spite of this excess, eggs were worked out of the warehouses at a more rapid rate,

so that by January 1, the holdings had been reduced to 879,000 cases, or 217,000 cases below the holdings of the same date last year, and 534,000 cases below the five-year average. Peak holdings of frozen eggs during 1927 were also very heavy, and although these have been reduced rapidly, they were still more than 13,000,000 pounds above those on hand at the same date last year and about 18,000,000 pounds above the five-year average on January 1.

Poultry production was apparently somewhat less during the past year as shown by receipts of dressed poultry at the five principal markets. Receipts, however, of live poultry at New York showed a small increase. Prices of dressed poultry on the New York market averaged about 4 cents per pound lower, and the farm prices of live poultry averaged about 2 cents per pound lower, in 1927 than in 1926. Beginning with October, however, and continuing through the remaining months of the year, the farm prices of live poultry averaged only slightly lower than for the corresponding months a year ago.

Storage holdings of frozen poultry have been below those of the previous year since October 1, and as the storage season progressed they fell further and further behind until on January 1, they were about 27,000,000 pounds, or 18 per cent, lower than at the same date last year and less than 1 per cent above the five-year average. All classes of frozen poultry shared this decrease.

EGGS

The egg outlook is more favorable to producers than it was a year ago, because of smaller holdings on January 1, and the favorable outcome of the storage deal during the past year, which should strengthen the demand for eggs during the storage season. The more favorable situation suggested by the storage holdings is strengthened by the recent receipts at the principal markets. While receipts of eggs at the five markets for October and November were slightly larger than during the same months of 1926, the receipts for December were about 20 per cent less, and this condition has continued during the first half of January.

Specialized egg producers may receive greater premiums for the fanciest selections of spring eggs for storage. Such eggs are gaining in favor among buyers because of the increasing readiness with which they can be sold later in competition with fresh receipts.

POULTRY

The number of hens and pullets in the laying flocks on January 1, 1928, was not very different from the number on January 1, 1927. Practically no change is reported in the Central group of States, which has over half of all the chickens in the United States.

Receipts of dressed poultry at the five principal markets have run lower during the past fall and winter than a year ago. This fact together with storage stocks on January 1, which were 18 per cent below those of that date the previous year, would seem to indicate that the supplies to be marketed during the first half of the year will be no greater than during the corresponding period last year and that until the new crop becomes available, poultry prices are likely to be better than in 1927.

In view of prospective business conditions, it appears probable that the level of consumption of both eggs and poultry will be fully maintained during the coming year.

The future welfare of egg producers depends not so much upon what happens in the egg industry in 1928 as upon the possibility of success over a period of years. During recent years certain tendencies have developed in the industry which might well be considered by egg producers in planning their operations for the future.

Winter egg prices have shown a downward tendency since the World War. It is probable that the decreased spread between winter and spring egg prices will continue. The volume of fresh eggs coming into the markets during the winter months is tending to increase largely because of the increase in numbers of specialized egg farms, the presence of earlier and better pullets on general farms, and further economies in the cost of winter egg production. Storage eggs of the fanciest quality are likely to be an increasingly important factor in the winter price of ordinary fresh-gathered eggs. During October, November, and December of the past year, the fanciest storage packs sold from 3 to 5 cents per dozen higher in New York than during the previous year,

while all other grades of eggs, including fresh nearbys, sold for less than during the previous year. For about two months last fall the price level of the best storage eggs and fresh gathered firsts was about the same. Many buyers preferred the uniform quality of the storage eggs to the variable quality of the ordinary run of fresh firsts.

Large specialized poultry farms have increased rapidly in numbers during the last few years. The use of mechanical devices has made possible such developments as the commercial hatchery, large scale brooding operations, and improved poultry-house equipment. This has resulted in increased efficiency and in the ability to care for larger producing units per man. There is every indication that this trend toward greater specialization and larger units is likely to continue for some time.

FEED GRAINS AND LIVESTOCK

The average level of prices of livestock and livestock products has not changed much from a year ago when these were at the most satisfactory average since pre-war days. The price of hogs is very much lower; the price of poultry and eggs slightly lower; beef cattle prices are very much higher and prices for other livestock and their products somewhat higher than a year ago. The prices of feed grains, although somewhat higher than a year ago, are still relatively much below livestock prices, because of failure of farmers to decrease acreage of those grains in line with the decrease in numbers of livestock. The relative price of hay is even lower than that of feed grains.

The 1927 production of feed grains was not in excess of what would have been produced on the same acreage with 10-year average yields although the yield of hay in 1927 was much above average. The average production of feed grains (corn, oats, and barley) per animal unit during the three years 1925-1927 was about 12 per cent above the average for the four years 1921-1924. Hay production in relation to the numbers of hay-consuming animals has shown an upward trend for several years and in 1927 was the largest on record.

The acreage of feed grains for the last three years was practically the same as for the average of the four years 1921-1924, while the number of animal units on farms on January 1, 1928, was 11 per cent below the average number on farms from 1922 to 1925. The average acreage of tame hay during the last three seasons was less than 2 per cent below the average of the years 1921-1924, while during the past three seasons the number of hay-consuming animals on farms (expressed in animal units) shows a 10 per cent reduction from the average of the four years 1921-1924, and are now at their lowest point in many years. If average yields are secured in 1928, the outlook is for relatively low prices for feed grains and hay. With the probability of relatively small numbers of both beef cattle and hogs in 1929, the outlook for feed grains in that year is even less favorable. This should be of special significance to those farmers who raise these crops for sale.

Since the bulk of the feed grains produced in the United States is fed to livestock on the farms where grown, and income from such production is obtained from sale of livestock, it seems essential that adjustment should be in the direction of reducing feed crop acreages rather than expanding aggregate livestock numbers.

The part of the agricultural area of the United States devoted to the production of livestock and feeds has been operated on such an intensive scale during the past seven years that the combined output could not be marketed to advantage. The problem now confronting this large branch of the agricultural industry is how to operate to increase total net returns without material contraction in total farm area.

Instead of expanding livestock numbers more nearly to balance feed supplies, adjustments should look to stabilizing livestock numbers, which would probably include some increases in those areas where cash feed grains have been the main source of income; to reducing feed grain supplies by less intensive methods of culture; to turning much of the land now being cultivated to a less intensive use, such as pasture or soil improvement purposes, even allowing it to lie idle or grow up in woodlots. The saving in labor and cash by such practices would seem to give larger net returns, and, meanwhile, a better balance between livestock and feed grain supplies would result.

HAY AND PASTURE

With an unusually large carry over in sight this year from the record 1927 crop of 123,512,000 tons, the supply of hay for 1928-29 will be in excess of

the average domestic requirements for the last five years should an average yield be secured in 1928 on an acreage equal to that of 1927. With such a crop, only a slight price advance over the low price levels of this season may be expected. The continued decline in the number of hay-consuming animals will further tend to restrict demand next season, and no material increase in demand is in sight for several years.

The hay acreage is over expanded. About 1.04 acres of hay were harvested in 1927 per animal unit (1 horse or 1 cow or 7 sheep) of hay-eating animals on farms compared to 0.86 acres in 1920 and 0.88 acres in 1910. In addition, hay yields have shown a slight upward tendency during this period, largely because of the substitution of tame hay acreage for low-yielding wild hay acreage. From 1910 to 1919 the acreage of hay roughly followed the trend in hay requirements. Since 1919, however, the number of hay-eating animals steadily declined while hay acreage continued to increase to its highest point in 1922. The 1927 acreage was only slightly below the record 1922 figure and was 10 per cent larger than in 1910, while the number of animal units of hay-eating animals on farms was approximately 5 per cent smaller than in 1910.

Another contributing cause for the present low farm price levels for hay has been the decrease in the number of horses in cities during the period 1910 to 1927 which has been much greater than the decrease for all hay-eating animals on farms. The city horse population decreased about 70 per cent from 1910 to 1925 according to a survey of 19 cities. This decrease has continued since 1925. Receipts of hay at such markets as Boston and New York for the years 1910 to 1927, indicate plainly the effect of this decreased horse population in cities on the demand for hay in those markets. In 1910-11 the total receipts in these two markets amounted to 501,280 tons; in 1920-21 to 228,934 tons; and in 1926-27 to 89,720 tons; or a decrease of 82 per cent from 1910-11 to 1926-27.

The outstanding regional change in hay acreage from 1910 to 1927 occurred in the Southern States, where the acreage increased 60 per cent. Hay acreage in the South Atlantic States increased from 2,800,000 acres in 1910 to 4,800,000 acres in 1927, and in the South Central States from 4,600,000 acres to 7,200,000 acres. In the Mountain and Pacific Coast States the acreage increased from 8,880,000 acres in 1910 to 11,300,000 acres in 1927, with little change in other geographic regions.

As a result of over-expanded acreage in proportion to livestock requirements, the purchasing power of hay for 14 years has been below that of farm products in general. The large crop of 1927 forced the purchasing power of hay to 58, in November, 1927, compared with 91 for farm products in general, based on 1910-1914 relationships.

During the last 20 years there has been a decided shift in the demand from timothy and other grass hays to legume hays. This shift was due to increasing use of legume hays for all kinds of livestock, especially dairy cattle, to increasing numbers of dairy cows, and to the decreasing numbers of livestock which use nonlegume hays.

The proportion of legume hay acreage to total hay acreage has increased distinctly in recent years to meet the changing demand. The legume hay acreage increased from about one-fifth of the total hay acreage in 1910 to one-third in 1927, the alfalfa acreage from 7 per cent to 15 per cent, whereas timothy and wild hay acreage decreased from one-half of the total hay acreage to one-third.

The increasing popularity of and demand for the legume hays, is indicated by the gradual improved price position of alfalfa and clover hay compared with that of timothy and prairie hay, even though legume acreage has increased materially while that of timothy and prairie hay has declined. Furthermore, the price position of the top grades of alfalfa hay which are in demand for dairy feeding is distinctly higher than that of the common grades of this hay or than that of timothy and prairie hays of any grade. Hays which have high protein content, such as U. S. No. 1 Alfalfa or U. S. No. 1 Clover, have shown a distinct tendency to rise in price as information became more widespread as to their nutritive value in animal rations, and such grades of hay are comparatively unaffected by the supply of and demand for common-run hay. Increased quantities of high-grade alfalfa and clover would find a ready sale.

No material increase in the demand for market hay in 1928-29 can be anticipated by growers unless regional crop shortages occur. In many dairy districts, however, the demand for high-quality, high-protein hay is increasing

slowly but steadily because of the tendency among producers of fluid milk to purchase a larger proportion of their hay requirements.

Profitable market returns from alfalfa or clover hay are possible in many sections tributary to the many large milk-producing and cattle-feeding districts of the country by growing that kind of hay which best meets the requirements of neighboring markets and by following those practices which insure high grades, such as cutting alfalfa not later than half bloom, or clover not later than full bloom, windrowing the hay when only partly cured, preferably with the side delivery rake, and so storing and baling as to retain a high degree of leafiness.

The production of timothy and other grass hays for market has become relatively, and often actually, unprofitable except in those few areas tributary to markets where these hays are still in limited demand, such as Boston, New York, Chicago, Cincinnati, and St. Louis. Offerings of timothy and of other grass hays will be ample for market requirements in 1928-29 unless drought restricts production in important producing sections. An average crop in 1928, however, will probably result in somewhat better market prices than those which prevailed after the record-breaking crop of 1927. The lower grades of timothy and other grass hays, representing the overripe or rain-damaged hay, will bring disappointing returns, as usual, in most cases.

Recent changes in freight rates on hay, effective at least until August 15, 1928, place the East North Central States on lower through rates to the South than have heretofore prevailed in relation to the trunk-line rates from New York State to the South. These changes favor the purchase of an increased proportion of the southern hay requirements from the East North Central States and a decreased proportion from New York State.

The national outlook for both farm and market hay suggests the need of a shift of the least profitable timothy or grass hay acreage into pasture or legumes, especially in those sections which have been accustomed to dispose of surplus hay in city markets or in the Southern States. Additional pasturage would lower the costs of livestock production and utilize some land that might otherwise be idle. This suggested conversion of some hay acreage into pasture acreage has special significance in many dairy sections. Many dairymen in sections that are not adapted for legume hays would find it more profitable to pasture the poorest timothy or other grass fields and to purchase high-grade alfalfa or clover hay. In Western regions where alfalfa is the chief hay crop, and where the number of cattle has decreased in recent years, any general increase in alfalfa acreage is not advisable this season.

FEEDS

Supplies of feed for the rest of the season are generally adequate. About the same quantity of feed grains is available as a year ago, and stocks of legume and other hays from the record crop of 1927 are unusually large. A slightly smaller supply of by-product feeds, however, is likely to become available during the rest of the season than for the same time last year. Prices of by-product feeds and feed grains are materially higher than a year ago, but hay prices are much lower. This suggests that more hay and perhaps less grain will be fed in general than during the comparable period in 1927, providing average weather conditions prevail. No data are available upon the consumption by horses and stock cattle, but the number of these animals is somewhat smaller than a year ago, and there are fewer cattle on feed this season. The number of dairy cows is almost the same as a year ago, and reports upon milk production since winter feeding began, indicate that dairy feeding is approximately on last year's level.

The supply of feed grains at the beginning of the season was slightly larger than for 1926-27, but exports of barley to date have been much larger this season than last. In addition, the high price of corn during August and September doubtless favored unusually heavy feeding of oats and barley in those months. Production of all hay this season was about 29 per cent larger than the short crop of 1926, and domestic supply for the season amounts to roundly 134,000,000 tons. This is the largest figure on record. The harvest of legume hays showed an even sharper increase than that of all hay and is nearly 40 per cent larger than the 1926 harvest.

In general, a materially smaller quantity of by-product feeds may become available during the rest of the feeding season than for the same time last year. A slightly larger quantity of wheat feeds may be produced in the six months January-June than during this time in 1927, but indications are that stocks of these feeds in practically all positions are even smaller than

the limited reserves of a year ago, so that less may be available for use. Production of these feeds during the early months of the 1927-1928 crop year was materially smaller than the liberal output for the same time in 1926-1927, and offerings, on the whole, moved immediately into consuming channels so that no material reserves were accumulated. Sharply reduced supplies of screenings and mill oats from the Northwest have caused a larger use of wheat feeds by mixed feed manufacturers. Production of wheat feeds during the second half of this season may be slightly larger than for the same time in 1926-27, since the lighter flour output earlier in the season may be offset by increased grindings in the latter part. In addition, nearly 0.3 pound more wheat per bushel has been going into offal this season than last.

Statistics indicate that only slightly over half as much cottonseed meal is available as at this time last year. Crushers' holdings of cottonseed meal and cake on January 1 were slightly larger than a year ago, but it appears that only a little over half as much cottonseed remains to be crushed during the rest of the season as at this date a year ago. In addition, stocks of cake and meal in other hands are probably considerably smaller than at this time in 1927, since, this year, dealers were not encouraged to buy by low prices as they were last year.

The early movement of cottonseed was heavier than last season, and receipts at crushers, up to the end of November, were 90 per cent as large as those at the same time in 1926-27, although the crop this year is only about 70 per cent of last year's harvest. The smaller remaining supply was reflected by the reduced deliveries of seed to crushers in December this season, which amounted to only 488,000 tons, against 855,000 tons for that month in 1926.

Indications are that slightly more linseed meal may be crushed during the remainder of this season than for the same months last year, depending upon the demand for linseed oil. The quantity of this feed which will be available for domestic consumption will continue to be affected by export demand. A little less than half of the total amount crushed is commonly exported.

The production of gluten feed and meal so far this season has exceeded the corresponding figures for a year ago, and trade reports indicate that the output continues large.

The supply of hominy feed for the rest of the season is likely to be hardly so large as for the same period last year. The production resulting from domestic cornmeal, hominy, and grits manufacture is expected to be about the same as for the same time last year, but export demand for cornmeal and corn flour is less active than it was a year ago.

POTATOES

Present indications are that unless farmers change their plans there will be a substantial increase in the acreage planted to potatoes this year. Preliminary reports indicate that farmers in the North Atlantic and North Central States are planning an increase of about 14 per cent. Scattering reports from the South indicate an upward tendency but probably no material increases in acreage except possibly in North Carolina and Virginia. In some of the western States, where low prices are now being received, substantial decreases in acreage are to be expected, but the limited number of reports so far received do not indicate that growers are as yet planning to make decreases sufficiently radical to offset the increases that are reported as intended in every State from Maine to Nebraska. If these January intentions are carried out, as they were last year, there would seem to be no section of the country where the chances will be in favor of returns from potatoes comparable to those secured during the last three years.

The acreage of potatoes in the United States is becoming steadily more concentrated in the best producing sections and on the farms of those growers who have learned modern methods and who raise an acreage large enough to permit the use of labor-saving machinery for planting, spraying, digging, and grading the crop. The quality of potatoes used for seed is also improving at a remarkable rate. This year sufficient certified seed is available to plant nearly a fifth of the entire acreage of potatoes in the United States, and an even larger proportion of the total acreage will be planted with potatoes grown from carefully selected seed stock. Average yields in the United States have been increasing quite rapidly during recent years. Prior to 1920 yields were mostly below 100 bushels per acre, but with average weather conditions a yield of about 114 bushels per acre must now be expected. As the increased use of improved seed is also increasing the percentage of the crop

that is of marketable quality it is evident that fewer acres per capita are now required to supply consumptive needs.

In 1927 the yield of potatoes was 114.7 bushels per acre and 402 million bushels were harvested. As potatoes are being extensively utilized this season as feed for livestock in some of the western States it appears that the 1927 production was more than was really needed for human food. If production is further increased this year the quantity actually marketed may be expected to show little further increase but a greater proportion of the crop will be used for stock feeding, starch, and other low-value purposes.

Reducing the 1928 potato acreage below that harvested in 1927 would probably improve returns to growers, but in a majority of the States growers were apparently encouraged by the prices received for the 1927 crop and are planning to increase their acreages. To determine the extent of the increase to be expected, some representative growers were asked to report the acreages which they intended to plant. The growers, who have reported to date, expect to plant 7 per cent more acres to potatoes than they planted last year. If these reports represent the present intentions of all growers, as they did last year, it appears that the acreage of potatoes will be increased from the 3,505,000 acres in 1927 to somewhere around 3,750,000 acres in 1928, unless growers change their plans or the planting of the intended acreage is prevented by weather conditions.

With an average yield of 114 bushels per acre, 3,750,000 acres would give a total crop of about 428,000,000 bushels and probably bring a repetition of the low prices which prevailed when the crops of 1922 and 1924 were being marketed. Production will of course depend largely on weather conditions, but if 3,750,000 acres of potatoes are planted there would seem to be nearly three chances out of four that the crop would exceed that of 1927.

Growers of late potatoes would do well to keep the foregoing facts in mind and to consider the bearish effect upon prices which the greatly increased 1927 crop had as compared with 1926. The increase of some 30,000,000 bushels of late potatoes in 1927 was due largely to heavier plantings in the West. Acreage and production in that section have been gaining more rapidly than is profitable for growers there. Plantings in the Mountain States in 1927 were 50 per cent greater than in 1924, and the Pacific Coast States show an increase of one-third during the same period. Combined production of 80,000,000 bushels in these nine States compares with 49,000,000 bushels in 1924. The 10 North Central and Eastern States, which produce a surplus of late potatoes, show more moderate acreage gains during recent years, and in 1927 yields in various important areas were reduced by drought, frost, or blight. In each of these 10 States, the number of farmers planning to increase their potato acreages appears to outnumber those planning decreases by at least two to one. Unless there is a more general realization of what this means there is likely to be a difficult marketing situation in these States next fall.

In the South, there are as yet no indications of a general increase of acreage, though a few States seem to be planning larger plantings. However, the price of late potatoes is lower, the quantity still in storage probably is greater, particularly in the West, and the chances of profit seem hardly as good as they were a year ago.

Some of the intermediate States, especially along the Atlantic seaboard, had exceptionally heavy yields last season, which prolonged their marketing period and slowed down the early market for northern or main-crop potatoes. The chances for a repetition of such exceptional yields are not great, but even with average yields, if this group materially increases its plantings, there is danger of heavy supply and low prices during the late summer period.

Considering the probability of an increased supply of potatoes, growers of late potatoes will do well to reconsider their plans for the coming season. Growers who plant heavily should make every effort to hold down their costs per bushel. Those who are planning to expand their potato acreage because of the profits secured during the last three years should bear in mind the unfavorable returns during the previous three years, 1922 to 1924.

SWEET POTATOES

Reduction of acreage of sweet potatoes in 1928 in both the commercial eastern coastal section and in the South would seem necessary in order to bring prices up to a more favorable level.

Shipments from the eastern coastal producing region, from Virginia to New Jersey, where the dry-fleshed type of sweet potato is grown, dominate the

marketing situation, at least during the fall months. During the past year sales were very draggy and prices were low in that territory. It was a particularly discouraging season on the eastern shore of Virginia and Maryland. Probably part of the remedy for growers, particularly in Maryland and Delaware, lies in better grading and packing. A more even flow to market from Virginia would seem to offer good opportunity for increased returns. There seems little excuse for shipping 70 per cent of the Virginia crop during two months—September and October—as has been done in recent years.

For this eastern region, it would seem that plantings might well be reduced about 10 per cent. This would provide an acreage which would, in a normal season, produce around 8,000,000 bushels. At least in those years when the eastern territory has had a crop of about 8,000,000 bushels, prices have been fairly high and some profit has been made. When the crop has exceeded that figure, returns have been discouragingly low. Virginia had the huge total of 5,800,000 bushels in 1927, and the four States in the eastern region had a combined total of 10,000,000 bushels.

Present indications are that in other States throughout the South, where sweet potatoes are grown mostly for local consumption, the acreage will be reduced in 1928. As pointed out in the Outlook Report issued a year ago, a very low price for cotton frequently results in the planting of an excessive acreage of sweet potatoes. A year ago cotton was selling at a low price and the acreage of sweet potatoes was increased 15.5 per cent in these States. As the 1927 crop of sweet potatoes brought much lower prices and cotton sold for a much better price, a fairly substantial reduction from the large 1927 acreage of sweet potatoes in the Cotton Belt is to be expected. Although there is as yet no reason to expect supplies to be unusually light, there is an opportunity, in nearly all parts of the South, for those individual growers who will secure improved seed and supply their usual markets with well-graded and well-cured sweet potatoes.

CABBAGE

Lower prices received for the 1927 crop tend to emphasize the truth of the statement made in the Outlook Report for 1927 that 1,000,000 tons of cabbage "seem to represent approximately present market requirements, and during recent years any production materially in excess of that figure has resulted in prices so low that planting has been reduced the following season." Thus the 1927 crop, which was 163,000 tons over the 1,000,000 ton mark, has suffered a reduction in price, as compared with 1926, of \$1.98 per ton. It seems apparent that a moderate reduction in acreage (not over 10 per cent) is necessary, assuming average weather conditions, to restore the price to a better level and there is no justification for continuing the present upward trend in acreage.

Production of Danish cabbage in the late States appears to be particularly closely adjusted to demand. Thus, in 1926, an increase in production of only 10 per cent over 1925 resulted in lower returns to growers and, in 1927, a further increase in production of about 8 per cent over 1926 caused a decrease of \$3.17 per ton—a drop of about 30 per cent. A cut of 8 per cent would restore acreage to about the level maintained in 1924, 1925, and 1926. With average weather conditions this would result in a crop which could be expected to sell at higher prices.

The production of Domestic cabbage in the late or northern States is influenced to a considerable extent by the quantity contracted by kraut factories. An acreage equal to that planted in 1927 (24,900 acres) should not be excessive in 1928, in view of the fact that yield was the highest for the last five years and the acreage was the lowest—1925 excepted. This seems true even when it is considered that, owing to the very low price of both Danish and Domestic cabbage in November and December, 1927, kraut factories have cut to capacity and their takings in the fall of 1928 may be light. If any reduction in acreage of Domestic cabbage is justified it should not be more than 5 per cent.

In the early shipping States, where slightly over one-fourth of the tonnage has been produced during the last three years, there is a tendency to sharper fluctuations in acreage, with a doubtful benefit to growers. Relatively high prices received by growers in these States the previous year, or relatively high prices received for cabbage grown in Northern States in the fall, frequently have led to too great confidence and to overplanting. This season, with supplies of late cabbage reported in commercial storage and in growers' hands on January 1 very much heavier than a year ago and with relatively low prices for northern cabbage, the indicated decrease of about 21 per cent for early cabbage in Florida and Texas is a move in the right direction.

Yearly adjustments of the early acreage, to offset either heavy or light production and the quantities entering storage in the late States, are desirable. Growers in the early and midseason sections should obtain information from competing sections before deciding on the acreage to plant.

ONIONS

A general reduction of 10 per cent below the 1927 acreage of onions in the late or main-crop States would, with average yields, produce a crop about the same size as that produced in 1925 and would probably restore the more favorable price level of that season. Nearly 50,000 acres of onions were grown in the late-shipping States last year. This was an increase of only 6 per cent over 1926, but with yields averaging 342 bushels per acre, compared with an average of 328 bushels for the preceding three years, production was increased by 12 per cent and reached the high total of 17,063,000 bushels. With the exception of a few States, average prices to growers for the season to December 1 were considerably below those of 1926 and were 39 per cent below the level of 1925. Price movements since December 1 have been such as to increase this spread between returns for the 1926 and 1927 crops, being less favorable for the latter. During the five seasons prior to the present season, imports, principally from Spain, during the period September to March, inclusive, have not varied greatly, although trending slightly upward during the four seasons 1922-23 to 1925-26 and downward since then. They have averaged for the five seasons about 9 per cent of the United States shipments during the same period.

The acreage of Bermuda-type onions in three early States (Texas, Louisiana, and southern California) has been increased about 10 per cent and is the largest in the past five years. Whether the crop likely to be produced on this acreage can be marketed at profitable prices depends largely upon the quantity of northern-grown onions remaining in storage in the spring and upon total imports from Egypt and other sources during the crop movement. Information is not yet available as to the plantings or the probable crop in Egypt for 1928 export shipment, but the trend of United States imports from Egypt is upward. Last spring, imports were unusually heavy, being nearly twice as great as in 1926 and amounting to about one-third of the domestic movement of the Bermuda-type onions during the period March to June, inclusive. There is danger that continued increases of acreage in the early States, especially with heavy production in late States, will greatly lower the price level for Bermuda-type onions in the spring. Plantings in these States should be made with due regard to the size of the northern crop.

Growers in the intermediate States (Virginia, New Jersey, Kentucky, Iowa, northern Texas, and Washington) would hardly be justified in increasing their acreage or production over the rather normal level of last year. It is too early to have authentic information about competition from imports in July and August, 1928. However, during these months in 1926 and 1927, imports were equal to about 10 per cent of domestic shipments. For the last five years they have averaged 14 per cent of domestic shipments.

BEANS

The 1927 crop of about 16,872,000 bushels of dry, edible beans is apparently fully equal to domestic demands. The total production in 1926 was larger than in 1927, but the pick of damaged beans in 1926 was heavy. If the same acreage is planted in 1928 as in 1927 an average yield would give about 17,800,000 bushels. An increase over that figure would probably result in a further reduction in prices, even allowing for average pick and for normal increase in consumption.

The quality this season in most States is exceptionally high and the supply of merchantable beans appears to be greater than last year. Hence, the 1927 crop is being marketed at price levels slightly lower as a whole than were paid for the 1926 and 1925 crops.

Since 1923 imports and exports have been comparatively small. Foreign price levels range too low to justify the production of beans for export except for limited quantities of some special types. Either the surplus of any crop which is larger than our domestic requirements must be carried over, with a depressing effect on prices of the following crop, or the entire crop must be marketed at prices influenced by the price paid for export beans.

The total production of pea beans in 1927 was about 4,800,000 bushels, which is 20 per cent less than in 1926 and 37 per cent less than in 1925. However, losses from weather damage were light this season, compared with unusually

heavy damage the two previous years, and on a hand-picked basis the production is about the same as in 1926 and 16 per cent less than in 1925. Prices showed a steady upward trend during the summer of 1927. They have declined slightly since September, but have averaged higher than in any similar period since 1923. Growers' returns were enhanced by the low package and by the high quality of the crop. The demand for pea beans for canning has been rapidly increasing during recent years, but its established position as the standard dry bean in grocery trade is being vigorously contested by the newer western types. The present supply of pea beans, which appears ample for normal demands, was produced with acre yields materially below the average. A slightly smaller acreage, with an average season, would produce a supply equal to probable needs.

There was a heavy decrease in the excessive production of red and dark-red kidney beans following the rapid decline in prices at the beginning of 1927. The present supply is considerably below the average of the last five years and present prices are higher than the low levels of 1927. The market demand for these beans is relatively limited and plantings of this type may easily be overdone.

The production of great northerns in 1927 was the largest on record—2,523,000 bushels compared with 1,335,000 in 1926 and 1,530,000 in 1925. Owing to depleted stocks in distributors' hands, the 1927 crop moved rapidly at prices to growers only slightly below those of last year. The rapid increase in the production of this class of beans and the readiness with which it has been marketed has made it a strong factor in the white-bean markets in competition with some of the older types; however, a further heavy increase in production in 1928 would be likely to result in considerably lower prices.

The Pinto, grown mainly in the nonirrigated farming sections of Colorado and New Mexico, has increased from a production of less than a million bushels in 1920 to over 2½ million bushels in 1927. Although yields have averaged relatively low, and large acreages are frequently lost by drouth, plantings have greatly increased, with prices ranging usually from 4 to 6 cents per pound. The consideration that an excessive acreage might easily depress the price to much lower levels should suggest to growers that any expansion of the acreage of these beans this year should be held within moderate limits.

The high prices paid for both Lima and Baby Lima beans for three years in succession led to heavy overproduction and low prices in 1926—about 6 cents per pound for the Limas and 5 cents for the Baby Limas. Although the production of Limas was reduced about 13 per cent in 1927, the heavy carry-over held prices at about 6 cents. Baby Lima production fell from 950,000 bushels in 1926 to 540,000 bushels in 1927, and although the carry-over was heavy the price rose about 1 cent.

FRUITS

Production of most fruits and melons has reached a point where it is difficult to market these crops at satisfactory prices in years when weather conditions are favorable for good yields. Because of adverse weather conditions the 1927 fruit crop was the smallest since the light crop of 1921. Production of the leading fruits and melons combined in 1927 was about 15 per cent less than the average of the preceding five years and 27 per cent less than the very heavy crop of 1926. In quantity this production in 1927 totaled about 11 million tons compared with some 15 million tons in 1926 and an average of 13 million tons during the five-year period 1922–1926.

Imported fruits, especially bananas, are an important factor in market supplies. The quantity of bananas brought into this country annually has increased steadily during the last 10 years and in 1927 was 89 per cent greater than the quantity imported in 1918. The importance of bananas in our markets is indicated by the fact that for the five-year period ending with 1927 imports of this fruit in terms of carloads have approximately equaled the carload apple shipments of the same period.

Fruit production has been increasing rather rapidly during recent years and has now reached a point where large quantities of fruits (particularly apples, peaches, grapes, and grapefruit) go to waste in years of heavy production. The increased production during recent years is the result of large plantings induced by periods of high prices, and was further artificially stimulated in some areas by those who had land for sale or who were otherwise financially interested. The apple industry, for example, is still suffering from the excessive plantings during the boom period which followed the short crops from 1907 to 1910 and which practically ended when the crop of 1912 was harvested.

In the Southeast peaches were overplanted during the years 1921 to 1924 following several years of high prices; and the present grape situation is the result of the excessive plantings in California which have just come into production. During the last year or two, fruit planting has proceeded on a moderate scale except that the good prices resulting from the recent short crops of citrus fruits have unduly stimulated real-estate promotion and grove planting in certain areas. In view of the very heavy losses experienced when an excessive acreage of fruit trees is planted it is hoped that future plantings can be based more on the long-time prospects for the fruits in question and less on the area of land that is for sale.

It should be recognized that the area of potential fruit land is so great that continued pressure of heavy supplies of fruit on the markets and keen competition among the various fruits may be expected. Consumers are demanding higher quality than formerly in their fruit purchases and substantial premiums in price are being paid for the better grades. This fact is tending to raise the average quality of market supplies and is worthy of careful consideration by growers in planning their production programs.

CITRUS FRUITS

The 1928 outlook indicates, as did those of 1926 and 1927, a marked increase in the bearing acreage of grapefruit and oranges, and a very large increase in their production in years when favorable growing weather prevails. The lemon acreage will doubtless remain about stationary during the next few years. In general, the outlook is unfavorable for additional plantings.

The estimated bearing acreage in California oranges has increased steadily from 107,000 in 1914 to 185,500 in 1927 but is expected to remain stationary during the next three years. Both Florida and Texas have large acreages in nonbearing trees. In the former more than one-fourth of the total trees are still nonproductive, while in the latter very little of the acreage has attained commercial bearing age. Any further increase in California orange production will probably be in the Valencia rather than in the Navel crop. A development of interest, particularly to Valencia orange growers, is the increase during recent years in exports to the United Kingdom. The shipments to that market in 1927 were 588,000 boxes, compared with 234,000 boxes in 1926 and 31,000 boxes in 1925. The bulk of these exports to England moved during the summer months when the competition of oranges from other sources was not as keen as during the winter.

Grapefruit trees of bearing age have about doubled in number in Florida since 1919; in Texas, with an acreage variously estimated between one-third and one-half of the Florida plantings, only a third of the trees are estimated to be of bearing age and very few have yet reached full production. An outstanding development in the grapefruit situation is the marked increase in shipments to the United Kingdom. In 1927 about 400,000 boxes were shipped, as compared with 150,000 in 1926, 140,000 in 1925, and 50,000 in 1924. This increase would indicate that the English consumer is rapidly developing a taste for grapefruit. This demand will doubtless grow especially if small fruit of good quality is provided.

The indications for the years just ahead are that whenever a good crop of either oranges or grapefruit is produced it will be marketed at prices considerably below those which have prevailed in 1927.

Lemon production in the United States has been so great for several years that the growers have not been able to market the total supply as fresh fruit at satisfactory prices. Imports of lemons have been rapidly decreasing during the last few years. In Sicily, the leading competitor of California, there has been a marked downward trend in production since before the World War, although some new plantings have been made recently because of increased returns to growers due very largely to the importance of the lemon by-products. If the price level for fresh lemons and by-products remains the same as has prevailed during recent years, a gradual growth in Italian lemon production may be expected.

APPLES

In the 1927 Outlook Report it was stated that the apple industry as a whole was gradually approaching a more stabilized condition, but that commercial plantings would hardly be justified except under unusually favorable conditions. This statement is applicable to the situation in 1928, in spite of the light yield in 1927 and the higher prices. It is probable that commercial apple

production for the country as a whole will continue to increase gradually during the next 5 or 10 years. The rate of increase, however, is likely to be less than during the last decade, for production in the Northwest appears to have about reached its peak and only moderate increases are expected in most other sections.

There is nothing in the apple outlook to discourage unduly the commercial growers who are favorably located and who produce high-quality fruit of desired varieties at a low cost. This applies particularly to growers who can count upon a local demand for a particular quality or variety, or who are so located that they can often produce a good crop in years when the total crop is below average. On the other hand, there is little reason to expect profitable production in orchards where returns have been disappointing because of poor location with respect either to markets or to growing conditions.

Excepting seasons of adverse weather conditions, heavy market supplies of apples have been produced in recent years and the commercial crop of 1926 was the largest on record. This is true in spite of the fact that the number of apple trees in the United States has been decreasing. In 1920 the number of trees in the country was 70 per cent of the number in 1910, and in 1925 it was 64 per cent of the number in 1910, according to the United States Bureau of the Census. In other words, from 1910 to 1925 there was a decrease of 79,000,000 trees out of a total of 217,000,000 reported in 1910. This decrease in the number of trees has been mainly in the less-favored producing areas and in the family orchards which are well scattered over many of the States. Concentration of orchards in the more-favored districts, and improved cultural methods, have increased commercial production.

In the boxed-apple region, the apple industry has developed rapidly during the last 15 years but has now reached a position of more stabilized production. From 1910 to 1920 the number of trees of bearing age in this region increased 75 per cent, but from 1920 to 1925 there was a decrease of 14 per cent. The prospect of more stabilized conditions of production in the boxed-apple region is further indicated by the fact that in 1925 only 13 per cent of the trees in this area were not of bearing age, compared with 55 per cent in 1910.

In the barreled-apple region the number of bearing trees decreased 39 per cent from 1910 to 1925. In this area the proportion of trees which were not of bearing age has remained practically constant at about 27 per cent of the total number of trees for all three census years 1910, 1920, and 1925. In certain commercial areas, notably in some sections of the Middle Atlantic States and in New England, the proportion of young trees indicates rather large increases in production during the next few years, especially in early varieties and in some of the higher-quality fall and winter varieties.

Heavy production of other fruits will continue to furnish keen competition for all apple districts. A favorable factor is the tendency toward an increase in the quantity of apples exported. The exports of the last five crop years averaged approximately 12 per cent of the commercial crop and were about two and one-half times the exports of the five seasons preceding the World War. It seems probable that the foreign demand for United States apples, especially of the better grades, will increase somewhat. The foreign demand is mostly for the medium and small sizes. Consumers both at home and abroad are demanding higher quality than formerly in market supplies of apples, and successful growers generally will find it necessary to give more attention to supplying their markets with high-grade fruit of desired varieties.

For the remainder of the 1927 crop season it seems likely that the generally satisfactory marketing conditions which have prevailed up to this time will continue. The 1927 commercial crop of apples in the United States was 34 per cent smaller than that of 1926 and 23 per cent smaller than the average of the previous five years. The crop has been moving into consumption at a satisfactory rate. The smaller crops of oranges and grapefruit will offer less competition than last season. Cold-storage holdings on January 1, 1928, equivalent to more than 20,000,000 bushels, were about 27 per cent less than those on January 1, 1927, and 16 per cent less than the five-year average for that date.

Competition from the large European apple crop of 1927, the lighter crop and higher price level of American apples, and heavy supplies of Spanish oranges in European markets have resulted in reduced exports of American apples this season. Exports from the United States and Canada, equivalent to more than 8,400,000 bushels by January 14, were only a little more than half the quantity exported by the same date last year. Well-graded and good-quality stock of certain varieties may, however, meet with a fair demand in some European markets

during the remainder of the season. The large Australian apple crop will offer strong competition toward the end of the marketing period for American apples.

PEACHES

The peach situation is still much the same as stated in the Outlook Report for 1927. Under normal weather conditions, heavy production and difficult marketing conditions may be expected during the next few seasons. This is true, notwithstanding the fact that the 1927 crop was 35 per cent smaller than the crop of 1926, mainly because of unfavorable weather. Because of neglect, disease, and age of trees some decrease in the pressure of heavy supplies on the market is likely to occur within five years. Young orchards in good locations, if given proper care, may later produce crops under somewhat more favorable market conditions.

In certain districts in the South, some of the poorer orchards have been pulled out during the last year. Plantings in recent years have been light. However, a large percentage of the trees which were set out during the period of heavy planting from 1921 to 1924 in the South and in certain Middle Western States, have scarcely reached full bearing age. The potential bearing capacity of orchards in the southern area is so great that a considerable reduction in number of trees would result in a higher farm value for the crop under average weather conditions and would offer relief to many growers from the generally unsatisfactory returns of recent years. The rapid expansion in the commercial peach industry since 1920 is shown by the fact that carload shipments during the last four years were about 42 per cent greater than during the preceding four years.

Trees which have been unprofitable during the last few years because of poor location or inferior varieties, or because of their low bearing capacity owing to old age or disease, will continue to be unprofitable during the remainder of their life. For the present, it would seem that growers in the important commercial areas of the South and Middle West should concentrate on taking care of the trees of varieties which have shown the best returns and which are well located and have a goodly proportion of their bearing life ahead of them.

In the Middle Atlantic and Mountain States, a smaller percentage of the trees are young than is the case in the South, and in those areas, limited plantings, sufficient to maintain the present volume of production, seem justified. Such orchards as are set out should be on the most favorable sites and should be of standard commercial varieties, particularly in cases where the crop is to be shipped to distant markets. In California, where a large part of the crop is used for canning and drying, production has been very heavy. In 1927 about 13 per cent of the crop was not harvested because of marketing conditions.

In years of exceptionally heavy production, poorly-packed peaches of inferior quality and condition, or peaches of small size, often do not bring enough to pay packing and marketing charges and, when put on the market, they tend to lower the price of the better grades. A united effort on the part of growers and shippers to maintain high standards and to secure the best distribution of the crop will be to the advantage of all. With production now at a point where profits to growers in some areas are very uncertain, more care than usual is necessary along these lines.

GRAPES

Basic conditions in the grape industry are about the same as a year ago. The national outlook is for continued heavy production for several years. The apparent slightly upward trend in the new high level of consumption may continue but it is likely to be too slow to remedy the present situation without other aids. In fact, an immediate appreciable reduction in acreage, particularly in California, would seem to be the best means of quickly relieving recent unsatisfactory marketing conditions.

The situation in California continues to overshadow that in all other sections. Increased production in that State in 1927 more than offset relatively light crops in the Eastern and Middle Western States and resulted in a record-breaking production for the United States. Carload shipments from California approximated the record movement of 1925 and the estimated tonnage dried for raisins was 42 per cent larger than for that year and only slightly below the record production in 1923. In addition, over 10,000 carloads, mostly

table varieties, remained unharvested because of unsatisfactory market conditions.

During 1927 practically no new plantings were made in California and some vineyards are being destroyed this winter. The acreage of bearing vines probably will be the same in 1928 as in 1927. Some new plantings are likely to be made, regardless of market conditions. On the other hand, rather concerted efforts are being made to eliminate those vineyards which show little chance of profit. Any grower who may be contemplating the planting of new vineyards should not overlook the fact that future crops could be 6 per cent smaller than that of 1927 without changing the quantity entering market channels, as approximately that percentage of the 1927 crop remained unharvested. Further, if growing conditions are as good in 1928 as they have been in 5 of the past 20 years, production can easily be increased 10 per cent. There also is the likelihood of larger production in Eastern and Middle Western States in 1928 than in 1927.

From a marketing viewpoint, it is likely that the new, relatively high level of consumption will be maintained and probably slightly increased. Further, special efforts are being made by interested factors to improve production and marketing methods. However, any aid which may be secured as a result of such efforts or through increased consumption is not likely to be sufficient to overcome marketing difficulties at an early date, and an immediate appreciable reduction of bearing acreage seems the best method whereby this can be accomplished.

In the Eastern and Middle Western States very little new planting was reported during 1927. Crops generally were light, due to unfavorable weather conditions. This was practically true in the Ozark region, where bearing acreage has increased more rapidly than in other sections of this area in recent years. In the Ozark region the light crop of 1927, following a heavy one in 1926 which sold at low prices, has resulted in discouragement, and it seems probable that returns received for the 1928 crop will have a large influence in determining whether the industry in that particular section is to continue to expand or whether it will shrink rather rapidly.

The 1927 crop in eastern and mid-western areas was 17 per cent smaller than the average of the previous five years. It is likely, therefore, that production in these areas during the next few years will be greater than in 1927 and that strong competition from California will continue. These conditions, with their probable effect upon price, must be carefully weighed by any grower who contemplates the planting of new vineyards.

STRAWBERRIES

The immediate market outlook for strawberries is slightly less favorable than that of a year ago. The chief element of weakness in the situation is the unusually large acreage in some commercial sections. With average yields, the crop this year will be one of the largest on record. If growers reduce acreage in response to low prices, as they have in the past, the outlook for 1929 and 1930 will be more favorable.

The situation continues favorable in the five early States—Florida, Alabama, Mississippi, Louisiana, and Texas. The gradual increase in recent years to 31,000 acres in 1927 and to an indicated acreage of 33,450 in 1928 does not seem excessive, in view of the small degree of competition during the early berry season. However, heavy production in Louisiana tends to slow down the market for berries from the second-early States, which ship largely during May. Shipments from Louisiana usually are heaviest during April and May.

The outlook is fair in the six second-early States—southern California, Arkansas, Tennessee, South Carolina, North Carolina, and Virginia. The indicated acreage of 54,200 in 1928, although larger than in 1925, 1926, or 1927, does not seem excessive, unless an unusual season causes abnormal competition from Louisiana. The lower prices in some States in 1927 may be explained partly by the unusually large yield per acre.

The market outlook in the intermediate States is decidedly unfavorable. This group includes Maryland, Delaware, New Jersey, Kentucky, Illinois, Indiana, Iowa, Missouri, and Kansas. California belongs in this group, but the situation there is favorable. Plantings in this general group have been gaining steadily, and last year 69,000 acres were harvested. Prospects are for 72,000 acres in 1928. The favorable prices in some of these States last season may be explained in part by the reduced yield per acre, due to flood damage and to the spring freeze in the Ozark region. Notwithstanding the lower yields per

acre in certain of these States, their combined production in 1927 was the highest on record. If yields in 1928 are average, production will exceed that of last year. Reduced plantings in these States seem advisable.

The situation is good in five of the late States (New York, Pennsylvania, Ohio, Michigan, and Wisconsin), which grow berries chiefly for local markets. The indicated acreage of 19,600 for 1928 does not appear to be excessive. A considerable portion of the berry crop in Washington, Oregon, and Utah is canned or packed in barrels for manufacturing purposes and does not compete in the open market with other fruits. The indicated 1928 acreage in these western States is greater than in 1927, when the crop was marketed at considerably lower prices than those of 1926. On the other hand, the demand, especially for the packed product, appears to be increasing.

CANTALOUPES

There is need for a sharp revision downward in the acreage planted to cantaloupes in the early areas, which means principally in the Imperial Valley of California, if last year's disastrously low prices are to be avoided. Prices received by producers in the intermediate States indicate the advisability of a continuance of their acreage at about the same level at which it has been held during the past three years. In the late States a slight decrease in acreage seems advisable.

In 1927, acreage in the Imperial Valley increased about 13 per cent and production increased 20 per cent over 1926, with a resultant decrease in the total value of the crop of approximately a million dollars. The fact that a crop valued at \$10,269,000 was produced on 27,560 acres planted in the Imperial Valley in 1925, compared with last year's \$5,560,000 crop produced on 39,760 acres, should be sufficient argument for reduction. Corresponding differences existed between the 1925 and 1927 acreages and farm values in the other early areas (Florida, Georgia, and Texas, lower valley) indicate the advisability of uniform action in this respect. Complaints regarding quality of last year's crop also point to the necessity of better growing and grading methods and to more care in picking at proper maturity.

Total acreage and production in the intermediate shipping States (Arizona, Arkansas, California other than Imperial Valley, Delaware, Illinois, Indiana, Maryland, Nevada, North Carolina, Oklahoma, South Carolina, and other Texas) have not changed greatly during the last three years and no general change seems desirable, although the relation between production and price varies considerably between the States in this group. Where prices have been most favorable, acreage is likely to be increased somewhat, and, conversely, where prices have been less favorable, decreases are probable. The real danger is that the generally more favorable returns in the intermediate group last year—acreage and production considered—will lead to more increases than decreases in this group. The unusually light crop of all tree fruits, especially peaches, had a very favorable effect upon cantaloupe marketing conditions in 1927. Average returns for the last three years, therefore, rather than the more favorable prices in 1927, should be used as a basis for consideration in planting in 1928. These indicate that a maintenance of present acreage in this group of States is likely to produce best results.

In the late States (Colorado, Iowa, Kansas, Michigan, Nevada, New Jersey, New Mexico, Tennessee, and Washington) increased production brought lower farm prices, without exception. In a few States, notably in Colorado, price reductions occurred even with decreased tonnage, but, for the most part, decreased production brought increased returns. As acreage did not change greatly in the various States, the principal price increases can be traced directly to lower-than-average yields. Under these conditions no general increase in acreage in this group of States seems justified, and a comparison of prices received during the last four years would indicate the advisability of a decrease. The highest total farm value in this group of States in recent years occurred in 1924, when the cantaloupe crop, which was grown upon an acreage about 12 per cent smaller than that planted in 1927, was valued at \$4,022,000.

WATERMELONS

Prices received for watermelons during the last few years indicate that the acreage planted last year will, with average growing conditions, produce a crop about as large as can be expected to sell at prices that are not discouragingly low. Any appreciable increase in production in 1928 is likely to result in low

prices. In 1927 the generally light crop of all tree fruits, with which the watermelon competes to a greater or less extent, affected prices favorably.

In the early-producing States the 1927 acreage was practically the same as in 1926. However, a 10 per cent lower production, due largely to less-than-average yields in the heavy-producing States of Florida and Georgia, together with a small crop of tree fruits, resulted in higher prices. A slight decrease in acreage seems to be needed, if average yields are assumed, to secure prices comparable to those received in 1927. Any increase above, or even a maintenance of, the 1927 acreage is likely to result in a return to or toward the relatively low prices of 1926.

The reason for an increase in the 1927 farm price in the late States, over 1926, is found in a 35 per cent reduction in acreage and a 43 per cent reduction in total crop. Increased prices in 1927 resulting from this reduction are likely to stimulate too heavy planting. Over half of this reduction occurred in Missouri, largely because of damage by floods, therefore planting plans should be based not alone upon last year's prices but upon a study of prices and conditions during the last three or four years. These show that the relation between production and price in this group of States is rather delicately balanced. In 1927, with one minor exception, the farm price increased in every State where production was reduced, as well as in a number of the smaller-producing States, where there was a slight increase in production. Only slight increases, if any, appear to be justified in these late-producing States.

PEANUTS

Peanut growers in the Virginia-North Carolina section should not allow present satisfactory prices to cause them to overplant Virginia-type nuts, as these prices were due chiefly to disappointing yields, to lack of carry-over last fall, and to the small proportion of large kernels in the pods. A maintenance this year of the 1927 acreage of Spanish and Runner types of peanuts in the South can be expected to result in prices reasonably satisfactory to the grower, but much increase in acreage of peanuts for market is likely to mean relatively low prices. Consumption is increasing, but the 1927 acreage in the Virginia-North Carolina area was much the largest in 10 years, and the acreage elsewhere was well above the average.

In Virginia and North Carolina prices of Jumbo farmers' grade peanuts advanced 30 per cent in early December, in the face of increasing receipts and at a time when prices usually sag. This unprecedented situation was due to a combination of circumstances. There was a complete lack of carry-over at the beginning of the season, the crop came on late, imports had been extremely light for many months, the crop was shelling out hardly half as many of the extra-large size as the year before, and there was a general feeling on the part of cleaners and warehousemen that total production in the two States was much less than early beliefs indicated. Although the 1927 acreage in the two States was about 15 per cent above that of 1926, the yield proved disappointing. A special investigation at the middle of January shows a crop for the two States of only about 274,000,000 pounds, compared with the December estimate of 333,000,000 pounds. A yield equal to the average of the past five years from the 1927 acreage would have given a crop of 340,000,000 pounds. Although consumption is steadily increasing, a repetition in 1928 of last year's large acreage of Virginia-type nuts, with average yields, would probably mean lower prices to the grower, and further increase in acreage might cause selling prices to react toward the low levels of a year ago.

Imports of large-podded nuts from China have been equal to about 20 per cent of the domestic crop of Virginia-type nuts during each of the last two years and to a much larger proportion in previous years. The 1927 crop in China is said to be below normal in volume, but the proportion of large-sized kernels in the crop is reported greater than usual and the moisture content much lower than that of the 1926 crop. Unless the disorders in China seriously involve the important producing territory in the Shantung Peninsula and keep the peanuts away from the ports of export, prevailing high prices will tend to bring in fairly heavy imports during the coming six months and will provide serious competition to domestic Virginia-type peanuts later in the season. However, it should be pointed out that present stocks of domestic Virginia-type peanuts of the large sizes are said to be insufficient to satisfy the normal demand in the United States until new crop peanuts come on the market next November.

The prices of the small stocks of Spanish and Runner type peanuts remaining unsold are now much above those prevailing earlier in the season. Following two years of very short crops, there was practically no carry-over at the

beginning of the 1927 season, but the expectation of a large crop from the increased acreage caused opening prices to be low, and the bulk of the crop moved out of growers' hands at relatively low prices.

Demand was accelerated by the lower prices and shipments of shelled Spanish and Runner peanuts to date this season have been over twice those of last season to the same date. It is expected that little of the 1927 crop will be carried over. The 1927 acreage planted to these varieties was materially greater than the five-year average, and the yield was one of the highest on record. Although the crop is the largest since 1921, it came on an empty market and came much earlier than usual, so that the consuming year will be lengthened.

In making their plans for the coming season, growers of Spanish and Runner type peanuts can reasonably assume that the yield per acre in 1928 will not be as great as during 1927, when growing conditions were highly favorable. If yields are only average in 1928, the 1927 acreage can be maintained with a fair assurance of profitable prices. No increase in acreage of peanuts for market is recommended, as with average yields an acreage equal to that of 1927 should furnish sufficient supplies for domestic needs. The acreage intended for consumption by livestock will probably be considerably increased in view of the reported increase of from 20 to 30 per cent in number of sows to be bred for spring farrowing in the areas that grow peanuts for feed.

CLOVER AND ALFALFA SEED

The 1927 crop of red clover seed was the largest since 1922, but followed four consecutive small crops, which in 1926 culminated in the smallest crop ever recorded, with the lowest available supply in 25 years. In the spring of 1927 consumption was curtailed because of high prices which were next to the record peaks of 1919 and 1920. The production of red clover seed should be maintained because of the lack of supplies from previous years; the preference of farmers for domestic seed; the expected increase in consumption this year; and as protection against a recurrence of a shortage like that of a year ago.

The situation for alsike clover seed is not so favorable for the producer as is the situation for red clover seed, in view of ample domestic supplies, lack of a good demand in Europe, and a larger Canadian crop.

Sweet clover and alfalfa have replaced red clover and alsike clover to some extent, where soil and climatic conditions were favorable, but may not be used so extensively with the return of somewhat lower red and alsike clover seed prices. The production of alfalfa and sweet clover seed for the past few years has been more than enough to satisfy this increased consumption. The present demand is greatest for alfalfa seed that is adaptable for sowing in the Central and Northern States. Owing to shortage of the alfalfa seed crop in the Northwest (and Canada), production there may well be increased. Present wholesale prices are about equal to the average for the last five years. There is a large supply of sweet clover seed, and wholesale prices are 35 per cent lower than last year, and are about two-thirds the average price for the last five years.

The unusually large red clover seed crop in 1927 resulted from a greatly increased acreage, as the yield per acre was only a little larger than that of the preceding year. Available supplies in Europe are slightly smaller than last year, with demand there greater, owing to short seed crops in parts of France, England, and Italy. Exports to the United States are expected to be considerably smaller because of the larger American crop and the preference of American farmers for domestic seed.

Prices paid to producers for the 1927 crop have averaged only 13 per cent below 1926. Wholesale prices of red clover are 10 per cent lower than last year, but 10 per cent more than the five-year average, indicating the probability of increased consumption this year. Imports for the fiscal year ending June 30, 1927, amounting to 10,816,000 pounds, were slightly more than half those of 1926 and slightly below the average annual imports for the past 17 years of 11,407,400 pounds. Imports from July to January 15, amounting to 326,600 pounds, were smaller than usual for that period. The 1927 crop of red clover seed, plus the quantity already imported, plus liberal estimates of that still to be imported, and plus carry-over of old seed, would total approximately only 10 per cent to 15 per cent more than the average annual consumption during the past 10 years.

Alsike clover seed production in the United States has been increasing during the last four years, culminating in 1927 in the largest crop since 1922. Owing to a decrease in production in Canada in 1926, and a short world supply, prices advanced in the spring of 1927 to the highest point since 1920. Prices to growers

for the 1927 crop have declined in view of the larger production in this country and in Canada. Although prevailing wholesale prices of alsike clover seed are lower than the high prices of last year, they are still nearly 20 per cent above the five-year average for corresponding dates. Spring sales were less than those of the year before, but the carry-over is regarded as smaller than usual. Imports for July 1 to December 31, 1927, amounting to 2,795,700 pounds, were three times those of the same period a year ago but considerably below the average for the last five years for that period. It is estimated that available supplies from the domestic crop, plus the quantity already imported, are more than enough to satisfy the average annual requirements of 24,000,000 pounds.

Seedings of sweet clover have increased continuously for years, but production of seed has increased at a faster rate. Growers received for the 1927 crop the lowest prices in five years, and stocks have become burdensome. A reduction in sweet clover seed production is warranted.

The 1927 crop of alfalfa seed was about 15 per cent smaller than the 1926 crop, which was next to the largest on record. The diminished production this year was due, in the main, to unfavorable weather conditions in most Northern and Central States. The decrease in production of northern-grown seed was much larger than the decrease for the entire United States. Imports during the past year were about as usual, but have fallen since July 1 to about one-tenth the average for the last five years, which reflects the smaller available supply in Canada. Carry-over of old seed is probably larger than normal, but is less than that of a year ago.

Although smaller than last year, supplies of alfalfa seed are ample to take care of consumption. Wholesale prices now show little change from corresponding dates during the last five years. Production of seed should be maintained in the northern and central producing districts as insurance against losses in seed production similar to those experienced in a number of States this year, and because prices in these districts are expected to remain at a level that will make alfalfa seed production profitable unless it exceeds materially that of 1927.

TOBACCO

In general, the outlook for the tobacco growers is better than it has been for several years. The reduced acreage and low yields of 1927 eliminated many of the weak spots to which attention was called in the Outlook Report a year ago, and increases in the acreage of some types are justified.

A year ago the Burley market was in a dangerously topheavy condition because of excessive stocks, and low prices resulted; but stocks have been materially reduced, and will be much further reduced before another crop is ready for sale. One Sucker and the four dark fired types were in a precarious market position a year ago because of large stocks and slackening demand. Stocks of these types have been reduced somewhat, largely because of the short crop of 1927, and further reduction in stocks seems certain by October, 1928. The Green River type is selling at higher prices than for two years past, because of its improved market position, and further improvement in the outlook may be expected. Foreign demand for Maryland tobacco improved in 1927, although domestic stocks are increasing.

The market position of cigar types has been radically improved because consumption has exceeded production. Stocks of old leaf suitable for cigar manufacturing purposes have been reduced to a point where shortages may occur before another crop becomes available, and for the first time in several years the outlook is such as to justify an increase in the production in the important types of cigar leaf.

Flue cured is the only important class of tobacco that is in a less favorable position than it was a year ago. It has found ready and satisfactory sale notwithstanding the enormous production of 1927, but danger signals are appearing, and further expansion of production now will not be without risk.

Foreign demand for most of the important types improved in 1927 as compared with the previous year. Shipments of flue-cured tobacco (the principal cigarette types) were considerably larger and at sustained prices. Great Britain continued to take increased quantities, but exports of these types to China fell off materially. Exports of cigarettes showed a marked decline because of reduced takings by China. Foreign production of types similar to flue cured is increasing but has not become important. Although exports of Burley are not large, foreign markets absorbed three times as much Burley in 1927 as in 1926, but at lower prices. The return of Spain as a market for

dark fired Kentucky and Tennessee tobacco maintained shipments in 1927 at about the same level as in former years but at much reduced prices. Exports of Kentucky and Tennessee types to other important markets decreased.

CIGARETTE TYPES

Flue cured.—The outlook for flue-cured tobacco is less favorable than a year ago, notwithstanding the continued upward trend in the consumption of cigarettes at home and abroad. This upward trend of consumption is an element of strength and soundness in the long-time outlook for this class of tobacco, but in the outlook for the coming season there are elements of weakness.

The crop of 1926 was closely in line with manufacturing and export requirement and brought to the growers an average of 25.6 cents per pound. Stimulated by this price, coincident with which the price received for cotton was very low, production was increased approximately 22 per cent, a part of the increase being due to unusually high yields per acre. The total production is estimated at 692,013,000 pounds, by far the largest crop of flue-cured tobacco on record. The prices per pound paid for the 1927 crop, which are almost equal to those for the smaller 1926 crop, may be explained in part by unusual conditions. First, several new companies have entered the cigarette manufacturing field and have found it necessary to purchase in excess of normal needs in order to establish adequate initial stocks. Second, the production of Burley in 1927 was about 30 per cent less than that of 1926, and the shortage of cigarette tobacco from this source increased the demand for flue cured. The Burley situation now is such as to indicate a larger crop in 1928, and flue-cured tobacco may, therefore, expect increased competition. It is highly probable that, even allowing for increased consumption during the ensuing year, the stocks on July 1, 1928, will be larger than those of recent years.

With respect to foreign competition, it may be noted that the production of tobacco similar to flue cured is increasing in British African colonies, although the effect on the British demand for American tobacco is not as yet important.

Summarizing present conditions, the indications are that stocks of leaf in the hands of dealers and manufacturers on July 1, 1928, will be unusually large, that competition among buyers for the next crop will be less active, and that any increase in acreage in the flue-cured district this year will be at the risk of lower prices.

Burley.—The outlook for Burley has improved greatly as a result of the sharp cut in acreage in 1927, the effect of which was accentuated by unusually low yields per acre. Because of this, and the increase in consumption, the stocks of old leaf have been materially reduced. By October 1, 1928, a further reduction in stocks is expected. Although conditions in the trade justify a moderate increase in acreage for 1928, growers are warned against excessive plantings. There is a prospect of an unusually large carry-over of flue-cured tobacco. If, in addition to this, Burley is increased excessively, the market for cigarette tobacco will be oversupplied and prices will be correspondingly depressed.

In view of the fact that demand is increasing for cigarette grades and decreasing for the darker-colored and heavier-bodied tobacco used for chewing and pipe smoking, growers should direct their efforts toward the production of thin-bodied tobacco of light color.

Maryland tobacco.—The position of Maryland tobacco continues good. Export demand has improved during the past year. Stocks of old leaf have increased during recent years, but in view of the increasing rate of consumption, the situation may be considered satisfactory, and production could be expanded somewhat, with safety. The 1926 Outlook Report pointed to the need for greater care in packing Maryland tobacco. Recent reports from foreign markets acknowledge the improvement that has taken place, which has no doubt been a factor in the increasing exports. Complaints are still heard, however, that many hogsheads contain mixed grades and quantities of green tobacco and this fact has had an adverse effect on prices.

MANUFACTURING TYPES

Virginia fire cured.—The situation of Virginia fire cured is not as serious as it was a year ago, and the outlook is for further improvement if production is not increased. Exports have increased somewhat, but stocks are still too high. The price outlook is good for upper grades. Best demand is for grades of light color and good body. Medium and low grades are in less favorable position.

Kentucky and Tennessee fire cured.—Some improvement has occurred in the market position of the two fire-cured types produced in Kentucky and Tennessee,

namely, United States types 22 and 23. Prices, especially for the better grades, have made a substantial recovery. The outlook is that wrapper and good leaf grades will continue to bring good prices; but for the common leaf and lugs that make up the bulk of production, the outlook is poor.

The production of these two closely related types was 84,193,000 pounds in 1927, as compared with 129,225,000 in 1926. Because of increasing competition of foreign-grown tobacco on markets abroad and an increasing preference for lighter types of tobacco, the trend of consumption has been downward. Present prices may be explained partly by the better quality of the 1927 crop and partly by the unusually short crop. There is nothing in view at the present time to indicate that a change in the downward trend of consumption has occurred. Exports to December 1 were about the same as for the first 11 months in 1926, but at such reduced prices as to indicate a weak foreign market. Export prospects are not bright for the higher priced 1927 crop, with European production of competing types showing a slight increase. Stocks are still large. Some reduction has been made, but further reduction is essential to permanent improvement in the general situation. A return to the higher acreage basis of 1926 would jeopardize the gain in position that has been made.

Henderson stemming.—No change in the acreage of Henderson stemming tobacco appears desirable at this time. Consumption, although declining, is in excess of production, and this should have the effect of reducing the large stocks now on hand. A crop of the same size as that of 1927 should sell at more favorable prices than are now being paid.

One sucker.—The one-sucker situation shows marked improvement largely because production in 1927 was only one-half that of the preceding year, and because the low prices paid for the 1926 crop stimulated consumption. The production in 1927 amounted to less than 40 per cent of the quantity consumed during the year ending October 1, and if consumption continues at a normal rate, stocks will be considerably reduced by October 1, 1928. The outlook is for remunerative prices provided no excessive increase in acreage occurs.

Green River.—The outlook for Green River tobacco in 1928 is for a somewhat higher price for a crop of about the same proportions as that produced in 1927. The acreage and production of this type have been reduced during the last two years, but consumption also has been on a declining scale. Stocks have been reduced slightly and will probably be reduced further by October 1, 1928.

Virginia sun cured.—If present prices for Virginia sun-cured tobacco are to be maintained, the 1928 acreage should be no larger than that of last year. Virginia sun cured is used chiefly for chewing, and since the chewing habit is decreasing, the trend of consumption for this type has been downward for the last 12 years. Stocks increased slightly during the past year. Production in 1927 was lower than in 1926 and prices somewhat better, but production is still slightly in excess of consumption, partly because of the unusually large yields in both 1926 and 1927.

CIGAR TYPES

The outlook for cigar leaf tobacco is greatly improved. During the past year consumption has exceeded production in practically all types. The stocks on October 1, 1928, will be the lowest in many years. Obviously a moderate increase in production is warranted. It has been pointed out before, and should be reemphasized, that the question of quality is of paramount importance, and every effort should be made by the growers to increase the proportion of tobacco that is serviceable in the manufacture of cigars.

Cigar-filler types.—In regard to cigar-filler types, in Pennsylvania production remained practically the same in 1927 as in 1926. In both years production was considerably less than consumption, thus reducing stocks and resulting in a material improvement in prices.

In the Miami Valley, because of the very poor returns to growers during recent years, acreage was cut sharply in 1927. The shortage of production and the improved quality of the tobacco have made the crop a reasonably profitable one.

Consumption of Pennsylvania and Miami Valley tobacco in the year ending October 1, 1927, amounted to nearly 103,000,000 pounds, whereas production amounted to 60,827,000 pounds. With the reduction in stocks of these types, production could be increased without exceeding manufacturing requirements.

The Georgia and Florida sun-grown tobacco enjoys a steady market at reasonable prices. There is good reason to believe that a gradual expansion in this type could be successfully accomplished.

Cigar-binder types.—The outlook is for a ready sale for serviceable grades of binder tobacco. Production of these types declined 5,000,000 pounds from 1926 to 1927, because of unusually low yields. Declines were registered in the Broadleaf district of the Connecticut Valley and in the Habana-seed districts of Pennsylvania and New York. Production in 1927 was below consumption. Present prices, however, indicate that the 1927 crop is running rather heavily to stemming tobacco.

The market outlook for Wisconsin tobacco for the coming year is good, and a moderately increased quantity of good leaf will probably find ready sale. Tobacco production in Wisconsin has been less than consumption during the last three years, as a result of which the stocks that have burdened the market in the past have been greatly reduced. The crop of 1927 was characterized by low yields and good quality, and the growers are receiving materially better prices this season than have been paid in recent years.

Cigar-wrapper types.—Wrapper types, grown under shade in the Connecticut Valley, in Georgia, and in Florida, have increased in production and prices. No burdensome stocks of these types have been reported and a gradual expansion of the market for shade tobacco is to be expected.

SUGAR

Present prospects point to a continuation of large world sugar production, with sugar prices at approximately the present level through another year. Wherever present prices are profitable there is justification for the continuance of present acreages in the United States or even for increasing them in certain sections where the prospect for larger per-acre yields of good quality is favorable. This is particularly true in the Louisiana sugar-cane section where the planting of the newly imported disease-tolerating varieties has resulted in great increases in tons per acre.

Should Cuba produce in the present season 4,500,000 short tons, which would be about 500,000 tons less than last year, the world sugar crop for 1927-28 would be about 5 per cent above that of last year. The carry-over and stocks in 14 leading sugar countries at the beginning of the present season were slightly above those at the same time last year. It does not appear likely that consumption will increase sufficiently to compensate for the larger supply this year. The consumption of sugar last year apparently failed to continue the rate of increase experienced in previous post-war years. The trend of sugar prices during 1927 was downward in spite of the reduced production of 1926-27. Prices during the present year, and stocks at end of year, however, will be influenced to a considerable extent by the size of the Cuban crop and by the arrangements made by Cuba for the disposition of its sugar.

The Cuban crop has been officially limited to 4,500,000 short tons (4,000,000 long tons), a reduction of about 500,000 short tons from last year's crop. On this basis the world sugar crop for 1927-28 would total about 27,600,000 short tons, compared with 26,326,000 tons in 1926-27. This increase, in the face of the reduction in Cuba, is largely accounted for by an increase of about 1,300,000 short tons in beet sugar production and an increase of about 400,000 short tons in the production in Java. The European beet sugar crop, which amounted to about 8,500,000 short tons, was the largest since the World War and was the third largest on record. The increased production in Russia and Czechoslovakia was particularly noteworthy.

The stocks of old-crop sugar carried over into the present season in the leading producing countries were larger than those carried over last year. The principal increases in carry-over were in Cuba and Germany. The largest decrease occurred in the United Kingdom. Stocks of sugar at ports of the United States in September, 1927, were slightly lower than at the same time in 1926.

European beet sugar acreage in 1927 reached a figure considerably higher than the pre-war average. Practically all countries, except France, had as large acreages planted to sugar beets as before the war, and in several cases the acreage was larger. There has been an important increase in beet sugar acreage in England, where the industry is heavily subsidized. The tendency in Europe since the war has been in the direction of a steadily increasing sugar beet acreage. It remains to be seen how much the low sugar prices and international agreements may affect the planting of beets this spring. The 1927 figures indicate that cane sugar producing countries, other than Cuba, are continuing to expand production.